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J. Andrew Cushman
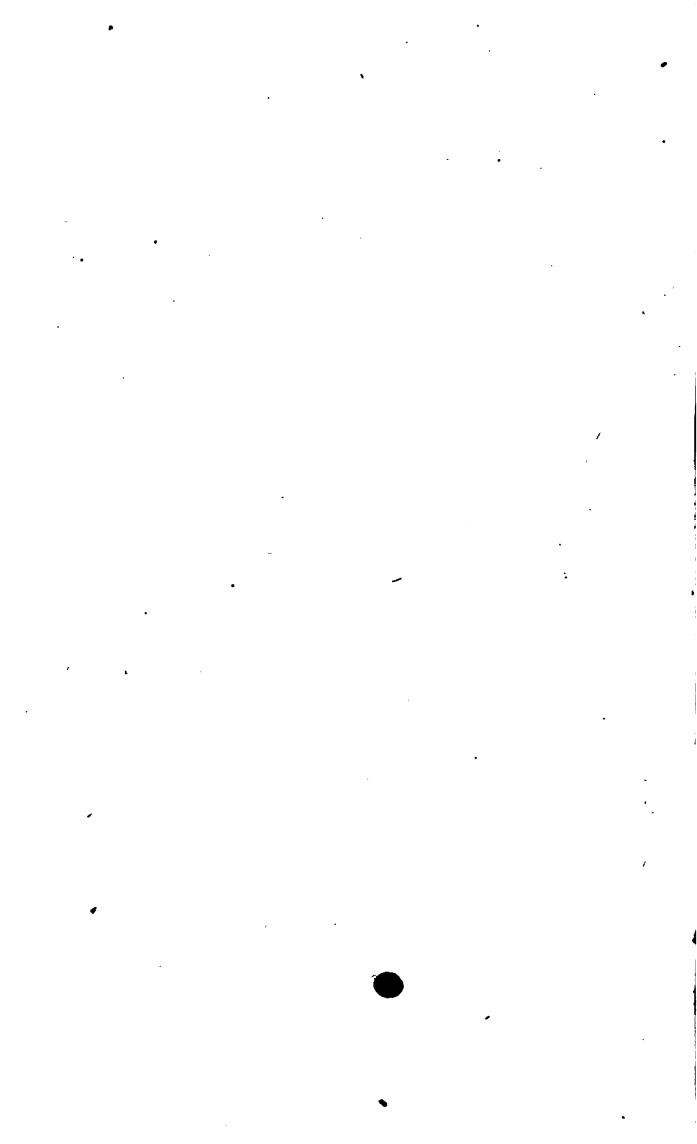
FIRST STEPS

TO

THOROUGH BASE,

IN

Twelve Familiar Lessons

BETWEEN

A TEACHER AND PUPIL.

***

BY A TEACHER OF MUSIC.

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SECOND AMERICAN, FROM THE LONDON EDITION.

BOSTON:
JAMES LORING, PUBLISHER,
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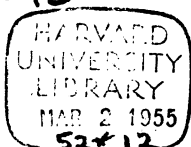
Recommendation.

———

Mr. James Loring,

      I know of no book in which the elementary principles of thorough base are made so plain and perspicuous as in the "First Steps, &c." published by you. Although originally designed for children, it is worthy of the attention of musical students generally; and it is decidedly the best work to put into the hands of any person commencing the study of musical science with which I am acquainted.

<div align="right">L. MASON.</div>

Boston, Dec. 18, 1832.

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PREFACE.

To give a pupil of ten years old any correct ideas of the abstruse science of Thorough Base, is an attempt so novel, that to many it may appear at least useless, and its execution absolutely impossible. But to these and many other objections, which I anticipate as being made to the plan of the following pages, I can only say, that I have already proved its efficacy by positive experience. The first six of the following Lessons are exactly the same in substance, and nearly the same in language, as some I have held with two young persons. The last six may, perhaps, require the understanding to be rather more advanced, though I am willing to hope that they will not be found difficult to be understood at almost any age, by a child in any degree capable of reflection. The progress made by those who have already learned thorough base in this manner has been so rapid (I had almost said astonishing,) that I have been urged to communicate my method of teaching it to the public, by many good judges who have witnessed its effects with surprise; and though I acknowledge this to be an assertion as generally introduced into prefaces as the names of the publishers are inserted in title-pages, it happens, in this instance, to be

literally true. The award of the public will alone prove,
whether the opinions of these friends were correct; and
on that award must depend the future publication of a
continuation on the same plan.

It will immediately be obvious to all who read the fol-
lowing pages, that in them my sole object has been to
make my language as plain, as simple, and as intelligible
as possible. I have carefully avoided all technical phrase-
ology; and I have even, in many instances, indulged in
tautology and recapitulations which may prove tedious to
many. But it must be remembered that I have not written
this to please the class of well informed readers. My only
wish is to inform those who are supposed to be entirely
ignorant of the subject; and if I succeed in my endeavors
in smoothing its intricacies to one juvenile student, I shall
feel sincerer pleasure than I could experience in extorting
praise from the sternest critic.

This little work is not only singular in being addressed
to children, but it also differs from all other publications
on the subject of thorough base which I have happened
to meet with, as it professes to show, from the very begin-
ning, that the science of music owes its chief difficulty to
the variety, and sometimes unintelligibility, of the terms
in which it is expressed; and it is in the instance of
chords—many different appellations are given to one and
the same combination of notes, which very combination,
on being analyzed (or as it might be termed *dissected*,)
would appear a natural and familiar harmony. Indeed, so
convinced am I of the simplicity to which it is possible to
reduce the theory of this science, that I venture to assert,
if its professors would agree amongst themselves to be
content to appropriate one single name to each individual
thing of which they treat, its principles would not only be
more generally understood, but its practice, by which I

mean chiefly the art of composition, would be very essentially improved.

My object has been to exemplify in *generals* the principles on which the rules of thorough base are formed, without reference to any particular instrument for their application; so that a child with a pencil and ruler can put the *theory* of all the rules I have laid down to immediate proof. Their subsequent *practice* is, however, absolutely necessary, not only for the purpose of giving a readiness and facility in playing chords, but, likewise, that the ear may be early educated to harmony, and both the taste and judgment thereby improved: for this purpose, I strongly recommend Corfe's work, as the best practical exercise for the manual part of thorough base.

In some few instances I have referred to the piano forte, as to an instrument in general use, and have represented the pupil as occasionally filling up some exemplifications of the rules under immediate consideration. Blank copies of these examples I recommend should be given to those who are to be taught according to this plan, to be filled up by the learners themselves, in the same way that it is advisable for every pupil to give their *own* answers to the little catechisms which conclude each lesson. A little attention to these remarks, and above all, not permitting the pupil to proceed to any new lesson till he is quite perfect in the last, are all that is required in the teacher, and is, I flatter myself, not too much to ask from liberal and candid judges. With these conditions I entertain little doubt of these lessons being found generally useful.

It now only remains for me to say a few words on the rules which I have laid down as first principles. In almost every instance, I have taken for my authority, in them, some writer of acknowledged reputation. Rameau, Rousseau, Alembert, Pasquali, Callcott, Corfe, and Dr.

Busby, have been those whom I have generally followed, though I have not always given the names of the particular authors from whom I have taken my quotations, in order equally to avoid an air of pedantry in myself, and a possibility of confusion to the scholar.

In the elements of all sciences it is, perhaps, of as much consequence to avoid mistake as to give knowledge ; as it is more difficult to clear the mind from the wrong deductions arising from one false idea than to engraft on it many new ones. I therefore hope the learned in the science of thorough base will give this little book the benefit of their criticisms, not so much for the sake of its author as for the benefit of those young friends for whose advantage it is particularly intended.   .   M. P.

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THE PUBLISHER OF THIS WORK
HAS ALSO PRINTED

A TREATISE ON HARMONY. By Catel. With Additional Notes and Explanations, by L. Mason.

A MUSICAL GRAMMAR, in four parts. By Dr. Calcott.

THOROUGH-BASE PRIMER. By J. F. Burrowes.

THE MUSICAL CYCLOPEDIA. By William S. Porter. Recommended by Professors Mason and Webb.

AN EASY GUIDE TO VOCAL MUSIC, chiefly with a View to Psalmody. By John Turner, Esq.

FIRST STEPS

TO

THOROUGH BASE.

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LESSON I.

EXPLANATION OF THOROUGH BASE.

Pupil. What is thorough base?

Teacher. It is the science of music. It con-
tains the rules for composition, and shows how
harmony and melody are produced.

Pupil. What do you mean, by harmony and
melody? I thought they were the same.

Teacher. Harmony is a combination or union
of several sounds, agreeable to the ear; as a
word is a combination of letters, which, though
perhaps not each distinguishable separately, make
altogether one complete, distinct sound; and

Melody is a succession of different sounds, making a continued tune, or theme, in the same way as many different words form a complete sentence.

Pupil. Then, I suppose, learning thorough base in music is something like learning to spell in a language.

Teacher. Yes. But it is also like learning the grammar of a language, because it teaches the proper order in which all the parts ought to follow each other; besides, thorough base is, as it were, an abridgment of music; for instead of the notes being all written down separately, those in the base only are written, and the accompanying notes in the treble are expressed by figures placed over the base.

Pupil. And would it not be just as easy to write down a note as a figure?

Teacher. Not quite so easy; for sometimes a single figure denotes a whole chord.

Pupil. What is a chord?

Teacher. A chord is two or more notes played together. Of course, every note in the gamut may be played with many other different notes, and so may make many different harmonies. But I have not time to tell you more of thorough base to-day: for the next lesson, I will teach you some of the chords; that is to say, if you understand and remember all I have told you already.

Pupil. O, yes, I remember it all!

Teacher. Then tell me what is thorough base? *Ans.* The science of music.—*Ques.* What is harmony? *Ans.* The union of several sounds.—*Ques.* What is melody? *Ans.* A succession of sounds.—*Ques.* How is thorough base written? *Ans.* In figures.—*Ques.* What is a chord? *Ans.*

Two or more notes played together, and their sound is harmony.

[These questions and answers are merely put down to show the manner of teaching by recapitulation; but it is recommended that the pupil should give the answers from his own unaided recollections.]

LESSON II.

THE COMMON CHORD.

Pupil. Will you tell me more about chords?

Teacher. You must first understand that, in thorough base, the relations of notes to each other depend on the distances at which they stand from each other.in the scale. Now if I write the notes of the scale and number them, you will find C is the third above A, and E the fifth above A, and so on.

Pupil. But, if I played E an octave higher than in the above example, it would be a great many more than five notes above A.

Teacher. Yes. But in thorough base you are only to consider the notes as they relate to one octave. So if you play any A you please in the base, all the E's in the piano forte are considered as its fifths. Do you understand that?

Pupil. I know you say that it *is* so; but I do not know *why* it is so. Will you tell me?

Teacher. The reason is simply this. Because the octave of every note is nothing but the repetition of the note itself in a different pitch; or rather because the same sounds recur at the distance of a certain number of intervals, in the same way as the days of the week come in regular rotation.

Pupil. Oh! yes! I know what you mean. Sunday comes again on the eighth day; and A comes again on the eighth note.

Teacher. And, therefore, it is called its *octave;* for *octavus* in Latin means the eighth. Now to prove the identity of sound, you may play on the piano forte two C's, for instance; and if it is in tune, they will make but one clear, steady sound; but if you play D and C together, the sound will jar, and produce what is called discord.·

Pupil. I remember when you tuned your harp last night, you made the E flat on the harp, sound just the same as the E flat I struck on the piano forte.

Teacher. Now, then, you comprehend why the distances of notes are reckoned only according to their relative situations in an octave; and not with reference to the extent, or compass, of any particular instrument.

Pupil. Yes; and I will always remember that E is the fifth to A.

Teacher: It is always the fifth *above* A. But you need not give yourself much trouble in *remembering* the distances of notes, as you can always count them on your fingers ; and you know you are very fond of pretending to play on the table when you cannot open the piano forte. Only recollect whilst you *are* drumming your fingers on the table, that in thorough base both the first and the last notes are to be reckoned.

Pupil. Oh! now I think I know the meaning of writing thorough base in figures instead of notes. If I was to write A in the base and put a 5 to it, it would be just the same as writing E to it ; would it not ?

Teacher. Yes, exactly.

Pupil. And has every note a chord belonging to it ?

Teacher. Every note has many chords belonging to it.

Pupil. And how are all the chords made ?

Teacher. That is a comprehensive question ; for each separate chord is made in a different manner. In one respect only all chords are alike ; and that is, they have all some one root note, or fundamental base.

Pupil. What is fundamental base ?

Teacher. The term fundamental base may be applied either to that succession of base notes which serves for a foundation to a whole melody, or to the particular note in a chord from which the relations of the remaining notes are taken.

Pupil. And does " root note" and " fundamental base" mean the same thing ?

Teacher. Yes—a *root note* to a chord is its fundamental base : this *root note* is sometimes transferred from the base to the treble. ......

Pupil. Then how can it be called the fundamental *base?*

Teacher. Because it is still the *foundation* of the harmony. Sometimes it is played both in the base and in the treble ; but it is always to be found somewhere in every chord, and is the ground work of the whole ; just the same as in the picture books of " Little Henry," and " Little Fanny," it is always the same little child at the bottom, though its dress and accompaniments change very often.

Pupil. And sometimes they alter so, one would scarcely know them to be the same.

Teacher. Well : the first " *dress*" of the root note is its common chord, or the chord of three, five, eight, written this way $\frac{8}{5}$; and that means,

that when the third, the fifth, and the eighth (or octave,) of a base note are played together, they form the common chord of that root note. Now suppose I played C in the base, what would be its common chord?—You can tell me by counting the notes on your fingers.

Pupil. C, one ; D, two ; E, three ; F, four ; G, Five ; A, six ; B, seven ; C, eight.

Teacher. You need not count beyond the fifth ; for you know the *octave* is always the same as the root note : so then E, G, and C, make the common chord of C, thus :
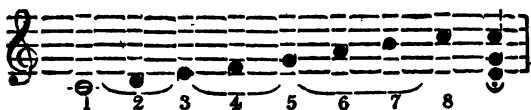
Now give me some examples of common chords
to these notes.
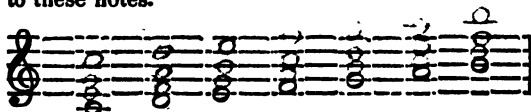
These examples are to be repeated on all the
different notes till the pupil can readily find, and
name the proper thirds, fifths, &c. by counting
them on its fingers.   The correct chords are sub-
joined to prevent any mistakes.

Teacher.   Now, before we close this lesson, let
me prove, whether you remember it.—How are
notes reckoned?   *Ans.* By their distances from
each other in an octave. — *Ques.* In counting
these distances, are both the first and last notes
counted?   *Ans.* Yes.—*Ques.* What is the root
note, or fundamental base of a chord?   *Ans.* The
particular note which is the foundation of a chord,
or from which all the other sounds of a chord pro-

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ceed.—*Ques.* Is it always played in the base? *Ans.*
No : it is sometimes played in the base, sometimes
in the treble, and sometimes in both.—*Ques.*
Must it be found somewhere in every Chord? *Ans.*
Yes.*—*Ques.* What is a common chord? *Ans.*
The third, fifth, and eighth of a root note.

LESSON III.

THE POSITIONS OF CHORDS.

Teacher. Now, do you perfectly understand
what a common chord is?

Pupil. Yes. It is the third, fifth, and eighth
of a base note played along with it.

Teacher. Just so. And because those are
COMMON *chords*, it is not necessary to write their
figures over their base notes, though all other
chords have their figures marked. Now if you
saw a note in thorough base written plain, without
any figure to it, what chord would you play to it?

Pupil. Its common chord.

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* In some chords, as for instance, that of the $\frac{4}{3}$, the "proper root
of the harmony is not pleasing to the ear, and is, therefore, usually
omitted." (Vide Calcott's Musical Grammar.) As it is, however,
my wish at present being only to make the pupil thoroughly under-
stand the first principles and general rules of thorough base, I avoid
mentioning the exceptions to them, for the sake of being more dis-
tinctly understood, and correctly remembered. The exceptions,
however, to this rule are very few, and only found in discords, where
"the leading note is sufficiently powerful to guide the ear to its
proper root." (Calcott.)

Teacher. Very well. Now then, you must understand next, that every chord may be played in as many different positions as it has notes. Bring me that box of wafers, and choose for me out of it three of different colors.

Pupil. There is a black, and a white, and a green.

Teacher. Now put them one over the other, and tell me which color you choose for the top.

Pupil. I have put the green uppermost, and the black next, and the white the lowest.

Teacher. Then we will call that the *first position.* Now pull the white from under the other two, and put it to the top; that will make another position.

Pupil. So it does: and, I suppose, I am now to take the black out, and put *it* to the top to make the third position. Am I right?

Teacher. Quite right. Now you understand from the changes in the *position* of these wafers how the changes in the *position* of chords are made. Tell me what is the position of the common chord which you learned yesterday?

Pupil. Three, five, eight; written so $\frac{8}{5}$.

Teacher. Now change the figures as you did the wafer, and tell me what is the second position?

Pupil. $\frac{3}{8}$ five, eight, three, I suppose.

Teacher. Exactly. And the third?

Pupil. $\frac{5}{8}$ eight, three, five.

Teacher. Now write down the common chord of C in all its different positions, in notes.

Pupil. (Writes.)

Teacher. Do you think you could, in the same way, write the common chords of F, or B, &c. in their different positions?

Pupil. (Writes a variety of common chords.)

Teacher. You perceive that in all those different positions the treble alone changes in each chord; but the base remains the same.

Pupil. Yes; because it is the root note.

Teacher. And you perceive by your ear, when I play these chords on the piano forte, that in all the different positions of each chord, the harmony is the same. Can you find out the reason?

Pupil. I will try. You told me harmony was "the union of several sounds:" and you told me that the same notes played in different places on the piano forte, always sounded alike; so that, I suppose, I think—

Teacher. And, I suppose, I think you have stated the premises very well; but you want me to draw the conclusion; and that is, if the sound of each note is not altered by the place in which it is played being changed, so the harmony, or union of those sounds, will not be changed by the *positions*, or *places* of the notes which compose it being varied.

Pupil. That is just what I thought, only I could not say it.

Teacher. Then I fear, your thoughts were not clearly arranged; for we can always *say* distinctly

what we *think* correctly. But to return : I have
remarked to you that in changing the *positions* of
chords, it is the *treble* only that varies. However,
very often the *base* changes from the root note to
some other one contained in the chord, while the
treble remains the same : that is called the " in-
version of a chord."

Pupil. Stop ! let *me* tell now. The harmony
will remain just the same, even though the base
does change ; because it is all the same notes only
played in different places. Now, did I not think
that correctly ?

Teacher. You did indeed ; and I would rather
hear one of your own correct thoughts than all
the thoughts of other people your mind could be
filled with. In our next lesson I will tell you
more about inversions of chords.

Pupil. O, I am sorry this lesson is over !

Teacher. Then you shall prolong it a few
minutes, by telling me what is the only chord
which requires no figures to express it ? *Ans.*
The common chord.—*Ques.* How many different
positions has every chord ? *Ans.* As many posi-
tions as notes.—*Ques.* What is the first position
of a common chord ? *Ans.* Three, five, eight.—
Ques. What is the second ? *Ans.* Five, eight,
three.—*Ques.* What is the third ? *Ans.* Eight,
three, five.—*Ques.* What is an inversion of a
chord ? *Ans.* When the base note changes from
the root note to some other note of the chord.—
Ques. What is the difference between the " posi-
tions" and " inversions" of a chord ? *Ans.* In
the positions, the treble changes, and the base
remains the same ; and in inversions, the base
changes, and the treble remains the same.

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LESSON IV.

INVERSIONS OF CHORDS.

Pupil. I have a thought of my *own* to tell you !

Teacher. And what is it ?

Pupil. Why, in my dictionary, I learned to-day that " *inversion*" means " change of place ;" and so I thought directly that the *inversion* of a chord means changing the place of its notes.

Teacher. You are a good scholar, for you give your thoughts to what you are about, and that enables you to understand and apply what you learn.

Pupil. Then my thought is correct ?

Teacher. Quite. And as a chord by changing its treble has as many different positions as it has notes, so, of course, it can have as many alterations in the base.

Pupil. Then the common chord, for instance, has three inversions ?

Teacher. Yes ; including its first situation when the root note is played by the base, which is called making it a *direct chord ;* indeed it is only called a *common chord* when it is so played ; besides this, it has two inversions called by their figures, and thus the chord of three, five, eight, gives three different bases, as well as three different trebles.

Pupil. But, you say they are not all called common chords?

Teacher. No. Though the sounds and the notes are the same, yet, for sake of distinction, it is only called the common chord when it is *direct*, or, in other words, when the root note is the lowest. When the base changes to the third, which is the first inversion of the common chord, it is called the chord of the sixth, and has a 6 over the base note. Now to make this inversion of the common chord to *F*, what would you do?

Pupil. I would first find out its common chord. (Counts on her fingers.) F, one; G, two; A, three (then *A* is the third;) B, four; C, five: *C* is the fifth, and F must be the octave; so I play A, C, F, in the treble.

Teacher. And what do you do in the base?

Pupil. I move it up to the third, and that is A, and put a 6 under, or over it.

Teacher. Now I will put that in notes for you.

So you see if the chord A, C, F, was written in the treble to F in the base, it would be its common chord direct; but if it was written to A in the base, it, would be the chord of the sixth; and in

order to mark this distinction, the figure 6 is
written under the base note.

Pupil. O yes, I understand; for if there was
no figure under the base, people would think that
they ought to play a common chord to A as well
as to F.

Teacher. Well; now then suppose you saw a
note in the base with a 6 under it, how would you
find out what notes ought to be played with it?

Pupil. I don't quite know.

Teacher. Why, you remember it is derived,
or as you would say, "came from" a .common
chord, and you have nothing to do but to send it
back to where it came from. Bring me a pincush-
ion : here is a pin, and a needle. Now I will make
the pin move up to where the needle stands—so.
—Well, now . then I move it back to .the hole it
was in before. Could you do that?

Pupil. To be sure—any body could do that.

. *Teacher.* Then it is just as easy to move back
the note in the base as to move back the pin to
where it was before. You said yourself, a minute
ago, that to make the chord of the sixth, you
would " move up the base to the third, and put a
6 under it." Now when you see a base note with
a 6 under it, you know it has already been moved
up to the third, and, therefore, you have nothing
to do but to move it back again, or, what is the
same thing, reckon it back again, which would be
to the third below, of course.

Pupil. O then, the chord of the sixth is always
a common chord of the third below the base, for
that is the note the base came from.

Teacher. Precisely. Write down for me in
notes the chord of the sixth to B.

Pupil. Let me see. I must count backwards from B ; B, A, G ; G is the third below B. Now I must make the common chord of G, and that is three, five, eight ; G, one ; A, two ; B is the *third;* well, then, C, four ; and D, the *fifth;* that is, B, D, and G, of course. So then this is it.

Teacher. Do you think you understand this sufficiently to go on to the next inversion ?

Pupil. Yes ; only I want to know why this chord is called the chord of the sixth, when I am to find it out by counting *three* and not *six?*

Teacher. Because the fundamental base is six notes higher than the actual base. You remember that I told you the " fundamental base" of a chord is the original *root* from which all the other notes in the harmony are derived ; for instance, the chord of the sixth is derived from the common chord, therefore the root note of that common chord is the fundamental base to the chord of the sixth, and the other derivatives of the common chord.

Pupil. Then is G the fundamental base to the chord I have written ?

Teacher. Yes. And if you count up from your

actual base B, you will find G is six notes above it ; and that is why that chord is called the *chord of the sixth.*

Pupil. Just so. And then, I suppose, it would be just the same if I counted six *above* the base as if I counted three *below* it ; for that would give me the common chord just as well.

Teacher. Certainly. But it would also give you double trouble ; and, besides, make a confusion with your next chord, which is the *second* inversion of the common chord.

Pupil. And what is that chord called ?

Teacher. The chord of the *fourth* and *sixth.* It is made by moving the base up to the fifth of the harmony, in the same way as the chord of the sixth is made by moving it up to the third.

Pupil. Am I then to count back *five* in the same way as I counted back *three* to find the treble notes ?

Teacher. Yes.

Pupil. Then the chord of the fourth and sixth to any note is the common chord belonging to the fifth note below the base ?

Teacher. Just so. Now I will write down for you all the chords that you have learned to any note you please : what note shall it be ?

Pupil. E, for that begins my sister's name.

Teacher. Then it shall be E. Here is its direct common chord in all its different positions. Its notes are, as you know, G, B, and E.

Here is the chord of the sixth in all its different positions. It must be the common chord of C; that is, E, G, and C.

Here is the chord of the sixth-fourth in all its different positions. It must be the common chord of A ; that is C, E, A.
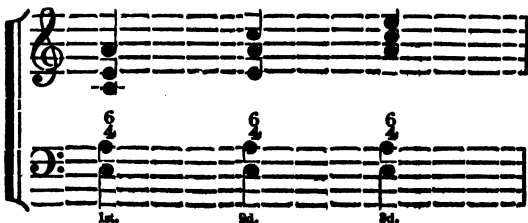
By this you see, though E is the *actual base* to all
these chords, it is the *fundamental base,* or *root*
note only to its own common chord ; for C is the
fundamental base to the chord of the sixth, and
A is the fundamental base to the chord of the
fourth and sixth. Now, you shall write down
these chords, making E the fundamental base to all.

Pupil. Then the fundamental base must be
different from the actual base ?

Teacher. Of course ; for you know it is the
change in the base which makes those chords that
are the *inversions* of the common chord.

Pupil. Oh ! now I understand. First, there
is the common chord to E, written so :
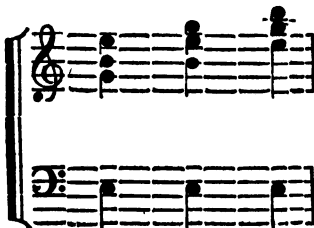
Then, in the chord of the sixth I must move up
the base to the third with the same treble.
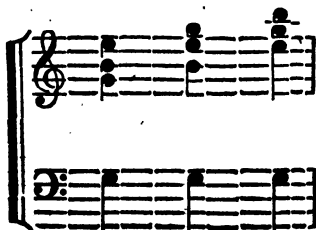
And in the chord of the sixth-fourth, I must move the base up to the fifth with the same treble.

Teacher. You have written this so well, I need hardly ask if you understand it? However, tell me how many inversions has every chord? *Ans.* As many as it has notes, including that situation which is called direct.—*Ques.* What is a direct chord? *Ans.* When the root note is played in the base.—*Ques.* What is the first inversion of the common chord called? *Ans.* The chord of the sixth.—*Ques.* How is it made? *Ans.* By moving the base up to the third of the root note.—*Ques.* How do you find out what chord you ought to play to a note that has a figure of 6 over it? *Ans.* By counting three notes back, and then it is the common chord to that third below.—*Ques.* What is the second inversion of the common chord? *Ans.* The chord of the fourth and sixth. —*Ques.* How is it made? *Ans.* By moving the base up to the fifth of the root note.—*Ques.* How do you find out the chord you ought to play to a note that has a 4 and 6 over it? *Ans.* By counting

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five notes back, and then it is the common chord
to that fifth below.—*Ques.* May all the chords in
the treble be taken in all their different positions?
Ans. Yes.*

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LESSON V.

THE HARMONIC TRIAD.

Teacher. Can you repeat to me all that you
have learned about common chords?

Pupil. I think I can. First I learnt that the
common chord to every note means its third, fifth,
and eighth; and that those notes may be played
in three different positions; and then I learnt—

Teacher. Stop a moment. Let us now finish
all that need be said at present on the common
chord. It is called the Harmonic triad; do you
know why?

Pupil. No; I hardly know what that means.

Teacher. It means an harmonious union of
three sounds, and is so distinguished because those
three sounds, viz. a third, a fifth, and an octave,
form altogether the most perfect harmony that can
be found in music;† it is also called the funda-
mental concord.

Pupil. What gives it that name?

Teacher. Because all other concords are de-

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* This is only given as a general rule.—See Lesson V.

† See Lesson XI. for the reason of this fact.

rived from this one ; so much for its different appellations. Now for its uses. Every melody must be concluded by the direct common chord of whatever note is its key note ; and that direct chord is generally taken in the first position. You must also remember that two common, or perfect chords, seldom follow each other without another chord coming in between.

Pupil. And why not ?

Teacher. Because to produce a succession of perfect chords, sharps or flats must be introduced, which would occasion a change of key at almost every note ; but this you will better understand when I come to explain to you more fully what *perfect chords* are. At present we will confine ourselves to the harmonic triad.

Pupil. And have I any more to learn about it ?

Teacher. Yes ; the different methods of figuring it.

Pupil. I know that it is sometimes written so, $\frac{8}{5}$, and that a note without a figure at all means a common chord. Are there any more ways ?

Teacher. Yes. Any of the figures 3, 5, or 8, put singly, express a common chord. Now if there is a dash through any figure, thus, $\cancel{3}$, or thus, $\cancel{6}$; it means that the note which that figure designates should be played sharp* ; but if there is a sharp, or flat, or natural, thus, ♯, ♭, ♮, put directly over or under a note that has no figure at all to it, it means that it should be accompanied by the common chord with its *third*, ♯, ♭, or ♮, according to the mark. In other words, any sign to which

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* " A dash across a figure usually denotes a diminished interval. But if drawn nearly across the head of the figure, it is often used to denote a superfluous or sharped interval." Catel's Harmony, p. 153.

there is no figure annexed, is considered as belong-
ing to the *third* in the common chord of the note
to which the sign belongs.

Pupil. And if a line through a figure makes
the note sharp, what sign makes it natural again ?

Teacher. The same signs are used for the
flats and the naturals in writing thorough base as
in writing common music ; it is only the sharps
that have a peculiar sign in thorough base.

Pupil. And is there the same rule in both,
that a note that has once been made sharp, flat, or
natural, continues so to the end of the measure ?

Teacher. Generally the note in the treble is
considered the same through a whole measure,
unless a new sign succeeds ; but for greater preci-
sion, when the chord changes, the signs are again
specified to each base note. As for instance : if
G in the base was marked with a flat, you would
play a flat third to it ; that would be B flat, and,
therefore, you would mark the note B in the treble
flat. Then if the next base note was E, to which
B flat was also to be played in the treble, you
would write a figure of 5, and the flat sign over it
in the base (because B is its fifth ;) but you need
not repeat the flat sign in the treble, thus :

Pupil. Oh! I understand *why;* because it is all the same note in the treble, but it is not the same note in the base.

Teacher. Or to speak more correctly, it is not the same *interval,* or distance from the base note.

Pupil. You told me in Lesson II, that the root note is "sometimes transferred from the base to the treble, and sometimes played in both;" I do not quite understand that.

Teacher: Then I fear you have not considered it. In the common chord direct of C, for instance, what notes do you play to C in the treble?

Pupil. E, G, and C.

Teacher. Then you play two C's; one in the base, and one in the treble; so in that case the root note is played in both. But when you make the first inversion of that chord, what do you do?

Pupil. I move the base up to E, and play the same notes in the treble.

Teacher. Therefore, as you *do* play C still in the treble, and *do not* play it in the base, the root note is transferred from the base to the treble. Now what is this first inversion called?

Pupil. The chord of the sixth.

Teacher. And of this chord of the sixth, one of the chief rules you have to remember is, that the octave of the base note is seldom or ever played, and must *never* be made the upper note of the chord.*

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* Pasquali says, the highest note of the chord of the sixth must not be the octave of the base "but when it is used as a stepping chord." This exception, however, only relates to that part of modulation which includes the rules for preparation, percussion, and resolution; and, therefore, belongs to a more advanced stage of the learner's progress.

Pupil. Then when the octave is entirely left out, the treble *only* has the root note. I understand that all now.

Teacher. Yes. And thus the chord of the sixth has *generally* one note less than the other inversion of the common chord.

Pupil. Then I think it has only two positions?

Teacher. Very true. But if four notes are necessary, as, for instance, in singing, then the third, or the sixth, may be doubled instead of the octave. Now write for me chords of the sixth to these notes according to this rule.

Pupil. (Writes.)

May the octave of the base be doubled in the next inversion?

Teacher. Yes. There is no necessity in the chord of the fourth and sixth to pay any attention to the omission or doubling of any particular note; but it is well to recollect, that in all chords it is advisable *not* to make the octave of the actual base the upper note of the chord, except in the conclusion of a melody, when a direct chord is required, or when some other positive rule demands a sacrifice of this, which is merely a matter of taste.

Pupil. Have the inversions of the common chord as many different names as the common chord itself has?

Teacher. No; but they may be figured many different ways; for the chord of the sixth is sometimes written with a 6 alone, or with a three and six; thus, $\frac{6}{3}$; or thus, $\frac{6}{3}$, with an 8 added. And the chord of the fourth and sixth is sometimes figured $\frac{8}{6}$.

Now tell me what other names may be given to the chord of three, five, eight, besides that of a common chord? *Ans.* It is called the harmonic triad and the fundamental concord.—*Ques.* How must every melody conclude? *Ans.* In the direct common chord of its key note.—*Ques.* What two chords rarely follow each other. *Ans.* Two common perfect chords rarely follow each other without another chord coming in between them. —*Ques.* How is a common chord expressed? *Ans.* By the figures, 3, 5, and 8, either singly, or together, or by a note having no figure at all.— *Ques.* What sign denotes a sharp in thorough base? *Ans.* A line drawn through any figure.— *Ques.* What is the meaning of a sharp, flat, or natural sign being put to a base note that has no figure to it? *Ans.* It means that the third of that note should be played sharp, flat, or natural, and its fifth and octave added.—*Ques.* Must the signs of sharp, flat, or natural, be repeated to every note in the same bar? *Ans.* Only in the base when its notes change, but not in the treble.—*Ques.* What note is usually omitted in the chord of the sixth? *Ans.* The octave of the base?—*Ques.* What other rule is there about the octave of the

base ? *Ans.* That it should very seldom be the
upper note of any chord, except in the conclusion
of a melody.—*Ques.* Need any note be omitted
in the chord of the fourth and sixth. *Ans.* No.—
Ques. How may the chord of the sixth be expres-
sed ? *Ans.* By a six alone; or by a three and a
six ; or by a three, and a six, and an eight.—
Ques. How may the chord of the fourth and the
sixth be figured ? *Ans.* Either by a four and a
six ; or by a four, and a six, and an eight.

LESSON VI.

OF DISALLOWANCES.

Pupil. You told me yesterday that I was not
to play the *inversions* of the common chord in the
first position ; but I want to know when the com-
mon chord is direct, may I play *it* in what posi-
tions I like ?

Teacher. Yes, considering it only as a single
chord ; but when it becomes a part of a melody,
or in other words, of a succession of chords, it is
otherwise ; for the order of chords in their right
positions is as much subject to rules as their inter-
nal arrangement.

Pupil. O, I recollect you said in Lesson I,
that "thorough base was like the grammar of a
language, because it teaches the proper order in
which all the parts ought to follow each other."

Teacher. I did so ; and this part of thorough
base may be called "the art of progression." Of

this, I will now, however, only tell you two rules, or rather prohibitions, which, in the language of thorough base, are termed " disallowances."

Pupil. And what are those?

Teacher. The first, which is indispensable, and may be called the golden rule, because it applies to every chord, is, that two fifths, or two octaves, are never to follow each other as the upper notes of two successive chords.

Pupil. Then I dare say it is to avoid that, that the same chords have so many different positions?

Teacher. At least the choice of positions enables us to avoid that disallowance, as well as the second, namely, skips.

Pupil. Skips? are there *skips* in music too?

Teacher. Yes: The greatest *skip* allowable in music is when the highest note of one chord is four notes higher, or four notes lower than the highest note of the last; and even this is only allowable occasionally, when the melody is essentially improved by it.*

Pupil. Please stop, that I may make myself understand this. If I played the common chord of C, that is, E, G, and C, then I play again G, C, E; that would do very well, because E is a *third* only above C; but then it would *not* do if after playing E, G, and C, I was to play C, E, and G, because G is a *fifth* above C; is'nt it so?

Teacher. Just so. You have ' made yourself understand ' that very well; however, you must recollect that these skips are only disallowed in the chords that accompany the base notes, not in the base notes themselves. Now the next thing

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* A rule often broken.

to be learned is how to avoid these disallowances. The first, which is called "consecutive octaves and fifths," is to be avoided by contrary motion.

Pupil. What do you mean by that?

Teacher. It is when, in a succession of chords, the upper and lower notes rise and fall in a contrary manner.

Pupil. By lower notes do you mean base notes?

Teacher. I mean whatever notes, either base or treble, are the lowest in a chord; thus:

Pupil. I see what you mean by contrary motion: I wonder it is not always done—it would be so easy.

Teacher. But then if it was *always* done, it would much diminish the variety and consequent beauty of melodies; therefore, the direct motion is occasionally used, and in it the *discords* are introduced, particularly that of the seventh, by which means all the disallowances I have told you of are avoided. However, there is still another method of avoiding them which is equally easy.

Pupil. I think all thorough base is easy.

Teacher. You know I told you at first it only requires a little attention. Now the second method of avoiding these disallowances, or as some would call them, "difficulties," is simply by taking whatever position of the chords happen to lay nearest your hand; and if you can acquire the habit of always, when you play one chord, recollecting

what chord you played last, and considering what one you are to play next, you will seldom commit any great errors, and with a very little taste may form agreeable melodies.

Pupil. Then I suppose I could soon compose tunes ?

Teacher. I don't exactly promise that; but the art of composition may be much simplified, when it is recollected that " all melodies have the perfect concords of the key they are in for their fundamental bases."

Pupil. I don't quite understand that. In the first place, what are *perfect concords ?*

Teacher. *Concords* which comprehend all the *consonances.*

Pupil. Oh ! now you are laughing at my love for hard words, as you call it.

Teacher. Well, then, in plain English, you will find in your dictionary that " concord" and " consonant" both mean the same thing, viz. " *accord of sounds, agreeableness ;* so that *perfect concords* are merely such chords as are formed by notes at those certain distances, or intervals, from each other, which form the most perfectly *concordant,* or united sound.

Pupil. Such, for instance, as the thirds and fifths, I suppose ?

Teacher. Yes. And these *consonant,* or agreeable intervals, are five in number ; namely, *thirds, fifths, eighths, fourths,* and *sixths.*

Pupil. Why, those are only the figures used in the common chord and its inversions.

Teacher. Precisely ; and that is the simple and whole explanation of those tremendous words, " perfect concords" and " consonant intervals."

Pupil. Oh dear! who would have thought it?

Teacher. Now, then, you perfectly understand why the common chord is called the fundamental concord?

Pupil. Yes; for if all the concords are found in it and its inversions, all chords made of those concords must belong to it: is not that it?

Teacher. At least all concords must be *derived* from it, as I told you in Lesson V. Now you perceive that the third, fourth, fifth, sixth, and eighth of every note are its perfect concords; so that the rule "that all melodies have the perfect concords of the key they are in for their fundamental bases," means, that the fundamental base notes must be either the third, fourth, fifth, sixth, or eighth of the key note of that key in which the composer finds himself at the time being.

Pupil. But you have not told me what the fundamental base of a *melody* is: I know the fundamental base of a *chord* is the particular note from which the rest are taken.

Teacher. The fundamental base of a *melody* is the succession of those *fundamental notes* on which the harmony is raised. The *actual* base of a melody is not always its *fundamental* base in the same way as in inversions of chords; the actual base and the fundamental base are different. But now our lesson must conclude.

Ques. Tell me what is the disallowance respecting consecutive fifths and octaves? *Ans.* Two fifths, or two octaves, are never to follow each other as the upper notes of two successive chords. —*Ques.* What is the disallowance respecting skips. *Ans.* The highest note of one chord must never be more than four notes higher, or lower,

than the highest note of the last.—*Ques.* What are the two methods of avoiding these disallowances? *Ans.* First, contrary motion; and, secondly, taking whatever position of the chords lay nearest your hand.—*Ques.* What are perfect concords? *Ans.* Chords formed of notes that are perfectly accordant with each other.—*Ques.* At what intervals are the most accordant notes found? *Ans. Thirds, fourths, fifths, sixths,* and *eighths.* —*Ques.* What notes form the fundamental base of a melody? *Ans.* Those which are perfect concords to its key note.—*Ques.* What is the fundamental base of a melody? *Ans.* That succession of fundamental notes which give rise to its harmony.—*Ques.* Is the fundamental base of a melody the same as its actual base? *Ans.* Not always.

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LESSON VII.

THE CHORD OF THE SEVENTH.

Teacher. In the six lessons we have been studying, I have endeavored to explain to you, first, the general meaning of "thorough base," and the distinction between harmony and melody.

I next told you the use of intervals, in ascertaining the relative situations of different notes in the same chord, and what particular note is called the root note, or fundamental base of a chord; also, what forms the positions and inversions of a chord.

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Thus far related to all chords indiscriminately, whether *concords* or *discords*.

We then talked of the fundamental concord, namely; the chord of $\frac{5}{3}$, and its two inversions, viz. the chord of the sixth and that of the $\frac{6}{4}$, with the different appellations given to the common chord, and the different method of figuring both it and its inversions.

Lastly, I pointed out to you the disallowances; first, regarding the formation of those chords individually—I mean forbidding the octave of the base to be played in the chord of the sixth, or to be made the upper note of any chord, except for the purpose of avoiding some other disallowance still more indispensable; and, second, the disallowances regarding chords in succession; such as no two common chords being allowed to follow each other; no two fifths, or octaves, to follow each other as upper notes; and no two upper notes to succeed each other at a greater distance than a fourth; these disallowances being avoided by contrary motion, and the choice of chords in the nearest positions to each other.

These observations, with an explanation of those intervals called " perfect concords," and their use in the formation of the fundamental base of a melody, concluded all I mean to say at present relating to *concords*. We will, therefore, now say a few words about *discords*.

Pupil. *Discord?* I did not know people ever played *discord* when they could help it: I thought that meant playing out of tune.

Teacher. Discord is a particular species of

harmony, in which some sounds are *dissonant*, that is to say, do not *agree*, or *blend*, or *unite* completely with the rest. These *discords*, however, are subject to rules as much as *concords;* and it is only when those rules are broken that the melody is disagreeable, and what you call "out of tune."

Pupil. I remember when the French gentleman was here, and you asked him to sing; and he said it was impossible, because the piano forte was not " d'accord;" did he not mean out of tune ?

Teacher. Yes. What we call tuning instruments, the French call *les accorder;* you know *accorder* means literally, to make of one accord ; so does our word concord : so that *concords* may be said to be " chords in perfect tune ;" and *discords,* those that are not so in themselves, though, when judiciously used, they serve to relieve the sounds of the *concords,* which, without that variety, would become insipid ; and thus *discords* are used to improve harmony, instead of the reverse. When a young lady worked at a frame the other day, you said you wondered why she put in any stitches of black silk when the pink was so much prettier; but when she had finished the pattern, you were convinced that the *contrast* made the pink itself appear to most advantage.

Pupil. O yes; and you showed me how you shaded off the colors from pink to black, and from black back again to pink.

Teacher. In the same way, in melodies where discords are introduced, they are always " shaded off," or as it is called, *resolved* back again into concords. If that was not done, the ear would be

dissatisfied, and we should not feel as if the tune, or melody, was finished.

Pupil. And how are discords *resolved?*

Teacher. Before you learn how they are *resolved*, it is necessary you should understand how they are made. The first, or fundamental discord, is so called, because from it all other discords are derived. It is made by adding the seventh of the base to its common chord. Now, according to this method, what would make the chord of the seventh to C?

Pupil. The common chord to C is E, G, and C. The seventh to C must be one short of its octave—that is B; so E, G, B, and C, make the chord of the seventh to C.

Teacher. And those notes may be written thus:
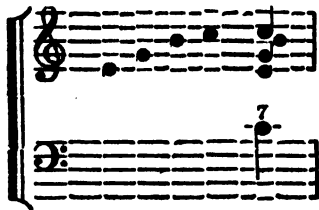
Do you remember how you changed the positions of the three wafers the other day. If you added a yellow one to the other three, it would enable you to have four positions; would it not?

Pupil. Stop—stop! I guess what you mean. You said "every chord had as many positions as it had notes;" so as there are four notes in the chord of the seventh, I guess it has four positions.

Teacher. Very well. Your *guess* is a very good one. Now the first position is the one *I* have written for *you,* namely ; *three, five, seven,* and *eight;* and *you* shall write for me the other three.

Pupil. That I can do very easily ; for it is only putting the first figure last, in the same way that I put the lowest wafer always to the top. (Writes.)

First position   .   .   3, 5, 7, 8.
Second position   .   .   5, 7, 8, 3.
Third position .   .   .   7, 8, 3, 5.
Fourth position   .   .   .   .   8, 3, 5, 7.
Then the first would come again 3, 5, 7, 8.

Teacher. Will you write those for me in notes to C ?

Pupil.

I put the seventh note always at a different side from the others, as I saw you did, and it made me remember it better.

Teacher. It is a very good way ; and if the note which forms a discord was always so written, it would simplify many chords extremely.   I see you remember that " the *positions* of a chord are made by changing the treble ;" you also know that its *inversions* are made by changing the base. Do you think you could make as good a " guess" about the inversions of the chord of the seventh as you did about its positions ?

Pupil. O dear ! I am sure I can in a minute —let me see.   The first inversion of the triad is

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when the base changes to the third. I dare say it is just the same with the seventh, only the seventh note is played to it; is it so?

Teacher. It is indeed; and this chord is called the chord of the fifth and sixth. Now write the chord of the sixth to C, and then write the chord of the ⁶₄ to C also, and tell me what is the difference between them.

Pupil. (Writes.)

6   ⁶₅

There is no difference, except that the note G is added in the last chord; and I have written it at the other side to mark it.

Teacher. G, then, is the seventh: to what note does it bear that relation?

Pupil. To A; for it is one short of octave A.

Teacher. And what is A to these two chords?

Pupil. It is the fundamental base to both those chords, and the note I counted from.

Teacher. Now try to write the second inversion of the seventh in the same way; that will make the chord of three, four, six. In this, the actual base shall be your favorite E.

Pupil. Am I to count five backwards, as I do in the chord of ⁶₄?

Teacher. Yes; and write the chord of $\frac{6}{4}$ beside it to prove the difference between them.

Pupil. That I can tell already; for there is only one *figure* different in the two chords; and, therefore, there can only be one *note:* I will try what that is.

It is G again.

Teacher. Of course; for your fundamental note is A again. Now the last inversion of this chord is where the base changes to the seventh; it is called the chord of $\frac{6}{2}$. Write that for me in notes.

Pupil. (Writes.)

There is the same treble to all these chords.

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* The exception to playing the octave of the base is stronger in this chord than any other; the discord has no place in the treble. I have not entered into an explanation of its nature, so different from the other inversions of the seventh, to avoid confusing the young scholar.

Teacher. Certainly; for you know these are all *inversions* of the chord of the seventh; and in inversions of all chords, it is the base *only* that changes. You now perceive that the inversions of the chord of the seventh are exactly similar to the inversions of the common chord in their *formation;* in *playing* them, however, there is a difference.

Pupil. And what is that?

Teacher. The octave of the base note is seldom played in the chord of the seventh *direct*, except at a final cadence; and is still more rarely used when the chord is *not* direct; in other words, in any of its inversions. The chords you have already written, show you, as it were, the skeleton of the seventh chord, and how its inversions are made. Now write accompanying chords to these base notes, attending to these disallowances.

Pupil. (Writes.)

Teacher. If you attentively examine these chords, you will perceive that the chord of the seventh is the common chord of the third *above* the base; and the chord of $\frac{6}{4}$, which is the last

inversion of the seventh, is the common chord of the second above the base, or in other words, of the note immediately above the base: can you find out the reason of this?

Pupil. No, I don't think I can.

Teacher. Try: it is very simple: take the chord of $\frac{6}{2}$ first. How is it formed?

Pupil. By moving the base up to the seventh of the root note.

Teacher. That is to say, you move it within one of the octave of the root note. Do you remember how the chord of the seventh is formed?

Pupil. By adding the seventh of the root note to its common chord.

Teacher. How is the chord of $\frac{6}{2}$ formed? repeat it again.

Pupil. By moving the base up to the seventh and playing the same treble.

Teacher. Is there any note left out in playing the inversions of the seventh chord ?

Pupil. Yes; I am not to play the octave of the actual base.

Teacher. Then if you leave out the octave of the actual base, what chord remains ?

Pupil. The common chord of the root note.

Teacher. And that common chord you may either take from the root note itself, or from its octave, which you have just now told me was next to the actual base.

Pupil. O yes! now I understand it. So instead of counting all the way back seven notes to find the chord of $\frac{6}{5}$, I may just take the common chord of the very next note.

Teacher. Now the reason of the chord of the seventh being the common chord of the third above the actual base is equally obvious. You know the note that is the *third* above must have two notes below it. When you are running down stairs, and have only two steps more to go, what step do you stand upon ?

Pupil. Oh! the third ! for I often jump the other two.

Teacher. Well, now, tell me once more what note is added to make the chord of the seventh ?

Pupil. The seventh note itself.

Teacher. Now take two from seven, and tell me how many remain ?

Pupil. Five.

Teacher. Then if we take the *two* notes away which are below the third, we shall find only *five* remain ; so that the note that is the *seventh* to a root note can be only the *fifth* to its third above.

In the same way the note that is the *fifth* to a root note becomes a *third* to its third above. Now prove that once more in notes, and figure them.

    Pupil. (Writes.)
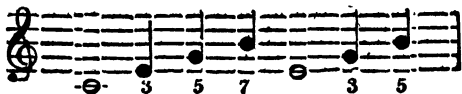
I see it quite plain, now ; and if I was to add the octave of E, it would make, as you say, either the chord of ⅜ to E, or the chord of ⅞ to C ; and that is just the thing, as the octave of the base is not to be played in the treble.

    Teacher. I am glad you understand it at last, for I wish to give you the habit, as much as possible, of understanding causes as well as effects. Now tell me what is the fundamental discord ? *Ans.* The chord of the seventh.—*Ques.* How is it made ? *Ans.* By adding the seventh of the base to its common chord.—*Ques.* How many positions has it ? *Ans.* Four.—*Ques.* How many inversions ? *Ans.* Three.—*Ques.* What is the first inversion of the seventh called ? *Ans.* The chord of the fifth and sixth.—*Ques.* How is it made ? *Ans.* By moving the base up to the third, the same as the first inversion of the common chord.—*Ques.* What is the second inversion of the seventh called ? *Ans.* The chord of the third, fourth, and sixth.—*Ques.* How is it made ? *Ans.* By moving the base up to the fifth, the same as in the second inversion of the common chord. —*Ques.* What is the third inversion of the seventh called ? *Ans.* The chord of ⁶₄.—*Ques.* How

is it made? *Ans.* By moving the base up to the seventh.—*Ques.* Are any notes left out in playing these chords? *Ans.* The octave of the base is rarely played in the inversions of the seventh, or in that *direct* chord, except at a final cadence.— *Ques.* How do you most readily find the chord of the seventh? *Ans.* By taking the common chord of the third above the base.—*Ques.* How do you most readily find the chord of $\frac{6}{3}$? *Ans.* By taking the common chord of the note next above the base.

LESSON VIII.

THE CHORD OF THE SEVENTH, CONTINUED.

Pupil. Have I any thing more to learn about the chord of the seventh?

Teacher. Yes. You already know how a simple chord of the seventh is formed; but you are also to learn that there are besides four different kinds of sevenths, depending on what relation the note on which they are formed bears to the tonic, or key note of the key they are played in, as also on the *kind* of intervals which they contain. The last distinction belongs to that part of thorough base which treats of major and minor. modes, to which we are not yet arrived.

Pupil. And what are the chords of the seventh called?

Teacher. When it is formed on the fifth note above the key note, it is called the *dominant seventh;* when it is formed on the fourth of the key note, it is called the *subdominant* seventh : these two are the only chords of the seventh of which it will be necessary to speak at present : these two discords are the only chords of the seventh which do not require to be *prepared*, though in common with all other discords they must be *resolved*, that is, taken away, and the melody brought back to concord.

Pupil. In the way you told me, about shading away your silks ?

Teacher. Yes. And as I bring in many different shades, so all the different inversions of the seventh may succeed each other before it is resolved.

Pupil. And how is the dominant seventh resolved ?

Teacher. By the part in which it is heard descending ; and in all regular progressions, it requires the triad of the *key note* to succeed it, or one of its inversions.

Pupil. And how is the subdominant seventh resolved ?

Teacher. By the part in which it is heard ascending ; and it equally requires the triad of its *root note* to succeed it—that is to say, in regular progression ; for sometimes all the different chords of the seventh are introduced for the purpose of changing the keys of the melodies ; and in those cases, of course, their resolutions must, in some degree, depend on the note which follows them as a fundamental base. But when the chord of the seventh is taken absolutely on the key note, it is

of course direct, and is resolved by the treble ascending to its tonic, except, as I said before, when it is used as a change of key. Now, do you quite understand what I mean by a discord being resolved?

Pupil. I think I do; it means the note which makes the discord being taken away.

Teacher. Just so. Now we have said that the chord of the dominant seventh resolves by the part in which it is heard *descending*. Tell me the chord of the dominant seventh to C, and how you would resolve it?

Pupil. (Counting.) G is the fifth note above C. Am I to take a direct chord of the seventh from G?

Teacher. Yes. What notes do you require?

Pupil. G, B, D, and F.

Teacher. Then what notes would you play? for you remember you do *not* play the octave of the base.

Pupil. No; I would play G only in the base, and B, D, F, in the treble; and then if I took away F and played E, it would resolve in descending to F, C, G; is not that right?

Teacher. Perfectly. Now the fourth to C is F; what would be its chord of the seventh?

Pupil. A, C, E; and I would play F in the base. Then I must take away E and ascend; that would be to F itself, would it not?

Teacher. Yes; and thus bring you into the triad of F. And that resolution is exactly similar to that of a direct seventh on the key note itself. You remember that the sevenths of the dominant, or subdominant, are not prepared. Do you understand what that means?

Pupil. Not exactly.

Teacher. A discord is *prepared* by being heard in the preceding chord as a consonance, or in other words, as a concord ; thus :
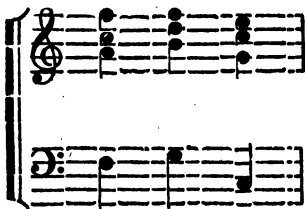
In the first of these chords, the F is heard as a consonance ; in the second, it becomes the discord ; and in the third, it is resolved by *descending* to E, or in other words, taken away entirely. At the same time, as this example is written in the key of C, and the chord of the seventh is taken on G, its dominant, there would have been no necessity for preparing it, had it not been to explain to you how it *might* be done.

Pupil. Well, I think I quite understand, now, how the chords of the seventh are resolved when they are made either on the key note, or on its dominant, or its subdominant. Will you tell me how the two other sevenths are called ?

Teacher. Not to-day ; as you are not sufficiently advanced to understand their definitions. Indeed, it is not absolutely necessary that you should much enter, at present, into the subject of how particular discords are either prepared or resolved, provided you know how they are made ; for it is the business of a *composer* to arrange

chords in their proper succession ; and your part,
as a *performer*, only to learn what notes they con-
tain, and what positions those notes may be
played in.

Pupil. I have had but a short lesson to-day.

Teacher. Well, you shall learn one thing more ;
namely, an easy method of finding out the funda-
mental base of all discords. If there is a chord in
which two discordant notes are situated close to-
gether, the upper one is always the fundamental
base to the chord. If the dissonant notes are sep-
arated, the lower note is the fundamental base.
Here are two examples to prove this.
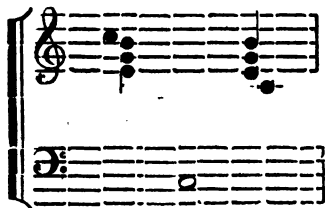
Pupil. O, I see. C is the fundamental base
to both those chords, and it is the upper note when
it is next its discord B, and it is the lowest when
it is separated.

Teacher. Well, now tell me, what is a domi-
nant seventh ? *Ans.* A chord of the seventh
formed on whatever note is the fifth above the key
note.—*Ques.* Need it be prepared ? *Ans.* No.—
Ques. Must it be resolved ? *Ans.* Yes ; all dis-
cords must be resolved.—*Ques.* How are discords
resolved ? *Ans.* By the note which forms the

discord being taken away in the next chord.—
Ques. How is the dominant seventh resolved?
Ans. By the part in which it is heard descending.
—*Ques.* What chord must follow it in regular
progression? *Ans.* The triad of the key note, or
one of its inversions.—*Ques.* What is the sub-
dominant seventh? *Ans.* A chord of the seventh
formed on the fourth of the key note.—*Ques.*
How is it resolved? *Ans.* By the part in which
it is heard ascending.—*Ques.* What chord must
follow it in regular progression? *Ans.* The triad
of its root note.—*Ques.* How is the chord of the
simple seventh resolved when it is made on the
key note? *Ans.* In the same way by ascending
to its triad.—*Ques.* Must all the sevenths, except
the dominant and subdominant, be prepared?
Ans. Yes.—*Ques.* How are discords prepared?
Ans. By the note which forms the discord being
heard as a consonance in the preceding chord.—
Ques. How do you know the fundamental base of
any discord? *Ans.* If the two discordant notes
are close together in the chord, the upper note is
the fundamental base; if they are separated, the
lower note is the fundamental base.

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LESSON IX.

OF DIFFERENT CHORDS AND INTERVALS.

Teacher. How is the first inversion of the chord of the seventh made ?

Pupil. It is made in the same way as the chord of the sixth, by the third being played in the base instead of the treble.

Teacher. And what is that inversion called ?

Pupil. The chord of the fifth and sixth.

Teacher. Very well. Now before we proceed further, I wish to tell you the different methods in which that chord may be expressed. A figure of 3 may be added to the 5 and 6, and then it is thus written ; $\frac{6}{5}$.

Pupil. You told me that all discords must be resolved ; is there any rule about resolving this chord ?

Teacher. Yes. The base moves up one half-note, or semitone, and is accompanied by the triad of the note to which it is removed ; thus :

Pupil. You say a half-note, or semitone; what do you mean by those words?

Teacher. When two notes are so near each other that their sounds cannot be, as it were, split, or divided into more than the two notes themselves, then their distance, or interval, is called that of a semitone; as, for instance, between B natural and C natural.

Pupil. Or between E natural and F natural?

Teacher. Yes. But when the interval might be divided into a third note, then it is called a whole tone, or two semitones. Can you give me an instance of a whole tone?

Pupil. From E natural to F sharp. Is not that two semitones?

Teacher. Certainly. Thus sharps elevate notes one semitone above their natural place, and flats lower them one semitone.

Pupil. O, I remember you told me once that B natural was C flat, and I wondered how that could be.

Teacher. You shall make for me a comparison of sharp and flat intervals, which will make you more fully comprehend them. But in the mean time we must return to the chord that is the second inversion of the seventh : what is it called?

Pupil. The third and fourth; and it is made by moving the base up to the fifth of the root note.

Teacher. This chord may be figured $\frac{4}{3}$, or $\frac{6}{4}$; and it is resolved by the base descending a *tone;* thus :

Pupil. I observe in your examples, the trebles *ascend* when the base *descends*, and the reverse; is that by choice, or by rule?

Teacher. Not absolutely by rule; because that must depend on the beauty of the melody and the positions of those chords which both precede and follow those we play;* but it is good to remember that the notes which are heard both in the discord and the concord must be the identical same notes, not their octaves; thus:

Not thus:

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* See Lesson VI.

Though any position might be originally chosen for those chords which best accorded with the rest of the melody.

Pupil. And does that rule hold good in the resolution of all discords?

Teacher. Yes; and also in the *preparation* of all discords. Now what is the third inversion of the seventh called? You remember it is made by playing the discord in the base to the common chord of its next note.

Pupil. I remember that very well; and it is called the chord of two, four, six.

Teacher. It is also sometimes called the suspended seventh, and may be figured with a 2 alone, or a 2 and a 4; and is resolved like the last inversion, except that the base descends only a semitone; thus:

Now we will say a few words more about sharp and flat intervals. You must understand that all perfect intervals* are supposed to be reckoned

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* By this I mean to imply *major* intervals, though I postpone the introduction of that word till an opportunity arises for its explanation. —See Lesson X. In these scales of intervals, the *diatonic* scale only is alluded to.

only by the specified number of degrees they contain ; thus : E is a perfect third to C, consisting of two whole tones ; whereas E ♭ would be an imperfect, or flat third, consisting only of one tone and a half.   But G ♮ is a perfect fifth to C,* though it only contains three tones and one semitone ; whereas G ♯ would be a sharp fifth to C, consisting of four whole tones.

Pupil.   Then perfect intervals are not always those that contain an even number of tones ?

Teacher.   No; and, therefore, to make the computation easier, we will reckon all the intervals by semitones.

A perfect second contains . . 2 semitones.
A perfect third . . . . . . 4 semitones.
A perfect fourth   . . . . . 5 semitones.
A perfect fifth . . . . . . 7 semitones.
A perfect sixth . . . . . . 9 semitones.
A perfect seventh . . . . . 11 semitones.
And a whole octave   . . . . 12 semitones.

These are the numbers by which our scales are generally calculated ; but, as you may perceive in them, the tonic itself is not included.   Now, as in reckoning all other parts of thorough base, both the first and the last notes are included, I propose, that in the same way, you should reckon both the first and last semitones : now I will write them for you, according to this plan, in the octave of C natural.

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* See Vibration, Lesson XI.
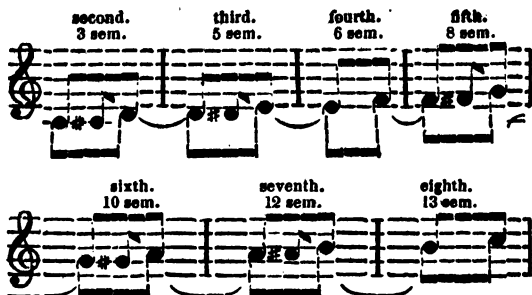
Pupil. I see all the perfect intervals come on natural notes in this octave in their right degrees.

Teacher. Yes. Now do you remember the distinction between sharps and flats?

Pupil. Yes; a sharp raises, and a flat lowers a note.

Teacher. How much does each alter a natural note?

Pupil. A semitone.

Teacher. From this, then, you will easily calculate the alterations made in intervals by the introduction of sharps and flats: thus, if a perfect second contains three semitones (including the tonic,) a flat second would contain two, and a sharp four.

Pupil. I understand. So, in the same way, the note D ♯ would be a sharp second and a flat third.

Teacher. Yes. And it is very desirable that you should clearly understand what sharp and flat intervals are similar to each other, as that much facilitates the decyphering the many chords which

composers seem to take a pleasure in perplexing
by using a variety of figures to express the same
intervals. But first I must point out to you a
peculiarity in the two intervals of the third and
the seventh. What is the distance between a
third and a fourth?

Pupil. Only a semitone.

Teacher. Therefore, literally speaking, a third
cannot be sharpened; because the addition of a
semitone would change the interval into that of a
fourth.

Pupil. But, you said the sign of ♯, ♭, or ♮,
without a figure, belongs to a third.*

Teacher. Yes; and that means that the third
note of the base should agree with that sign, with-
out reference to the number of semitones it may
contain: thus F is the third to D, and by it F ♮
is understood, though that note is in fact a flat
third to D, and the sign of a ♯ would imply F ♯,
which is only in truth a natural third to D. The
same circumstance occasions the second exception,
and that is in the sharp seventh. The distinctions
in that chord are made by the places in which the
semitones are found; for if the odd semitone is
found between the eighth and seventh notes, the
chord is called a *sharp*, or perfect seventh; but if
the eighth and seventh are at the distance of a
whole tone, it is called a *flat seventh;* and if neither
sharp nor flat is specified, you are to take the
chord in the natural notes as they happen to lie in
the gamut. Thus the natural seventh to C, is E,
G, B, C; and the natural seventh to G, is B, E,
F ♮, G; though in fact F ♮ is a *flat* seventh to

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* Lesson V.

G, and B ♮ a *sharp* seventh to C ; therefore, if you would write a chord of a flat seventh to C, you would make B flat, which is a whole tone from C ♮ ; and if you would make a sharp seventh to G, you would make F ♯, which is a semitone from G.

Pupil. Then, I think, since the chord of the seventh *must* be either sharp or flat from the situation of its odd semitone, it would be more true to say that it has no natural ; and the same with the third.

Teacher. Perhaps you are right ; but it is not our business to correct the art of thorough base— it will be quite sufficient if we comprehend it. Now here is a scale of comparative intervals.

Tonic.   flat second.   nat. second.   sharp second, nat. third.
flat third.
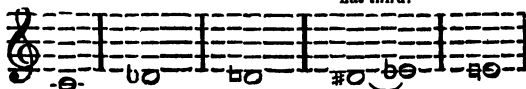
Nat. fourth.   sharp fourth, flat fifth.   nat. fifth.   sharp fifth, flat sixth.
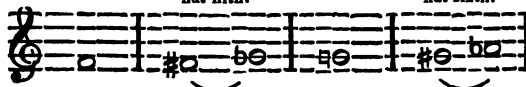
Natural sixth.   sharp sixth, flat seventh.   natural or sharp seventh.   octave.
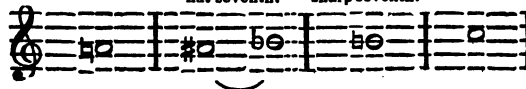
Pupil. Then, I suppose, people put sharps or flats to the same interval, according to the key they are playing ; as in music, in a flat key, you

would not write G sharp, but A flat, and yet mean the same note ?

Teacher. Not exactly ; for certain intervals being sharpened or flattened change a whole chord. You perceive that a sharp fourth is the same *note* as a flat fifth ?*

Pupil. Yes.

Teacher. Now tell me how is the first inversion of the seventh *chord* figured ?

Pupil. ⁶₅, or ⁶₅.

Teacher. There is still another way of expressing it, by a single 5 with a stroke through it ; thus : ƀ.

Pupil. Then, of course, the fifth is played sharp?

Teacher. No : it is a single exception to the general rule ; and means that a *flat* fifth, or what is the same thing, a sharp fourth, should be played with the third and sixth.

Pupil. Why is it marked sharp, then ? Would it not be plainer to put that stroke through a figure of four at once ?

Teacher. The only reason I can give you for this deviation from the general rule is, that a figure of 4+, so marked, is understood to imply the chord of ⁶₄; in other words, when that interval is marked ƀ, it is to be accompanied by a *third* and a sixth, and when it is marked 4+, it is accompanied by a *second* and a sixth.

Pupil. Then the note itself is the same, only the different mark shows whether a second or a third goes with it.

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* It is scarcely necessary to remark, that this only applies to keyed instruments.

Teacher.   Exactly so.   Now prove that by writing for me those two chords to C.

Pupil.   (Writes.)

Teacher.   Now, then, you must recollect, that a figure of four alone, sharpened, means the chord of $\frac{6}{4}$, which is the last inversion of the seventh; but a figure of 4 alone *not* sharpened, implies the chord of the fourth, of which I will tell you more presently; and a figure of 5 alone. . . . . . .

Pupil.   Let *me* tell that : when it is quite plain, it means the common chord ; but when it has a stroke through it, it means the first inversion of the seventh with its fifth flattened.

Teacher.   Very well.   Now what does a figure of 6 imply ?

Pupil.   The chord of the sixth, which is the first inversion of the triad.

Teacher.   Just so.   And when the sixth is sharpened, it only means that the sixth note should be played sharp.   Some few instances occur of the second inversion of the seventh being marked with a sharp six alone.   But this creates so much

* These chords are more frequently expressed thus, $\flat^{6}_{5}$, $\sharp^{4}_{3}$, $\sharp^{4}_{2}$.

confusion with the sign of the chord of the sharp sixth, that it is seldom practised.*

Pupil. Well, I think I understand all the inversions of the seventh now. Will you tell me about the chord of the fourth, as you promised?

Teacher. Willingly. I have already told you that the triad is the fundamental concord, and the chord of the seventh is the fundamental discord. Now besides these two kinds of *fundamental*, or *direct* chords, others are formed from them, which may be called either *inverted*, or *derived* chords. Tell me what are the *inverted* chords of $\frac{8}{5}$?

Pupil. There are but two. The first inversion is the chord of the sixth; and the second inversion, the chord of the fourth and sixth.

Teacher. Very well. Those are its two *inversion* chords. It has also three chords *derived* from it. The first of those derivatives is the chord of the *fourth*, which I have already mentioned: it is made by leaving out the third in a common chord, and taking the fourth in place of it.

Pupil. Is it a concord or a discord?

Teacher. Literally speaking, it is a discord of

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* The first inversion of the tonic dominant seventh is sometimes called the chord of the false fifth; the second inversion, the chord of the sensible sixth; and the third inversion, the chord of the tritone. The first inversion of the simple dominant seventh is called the chord of the great sixth; the second is called the chord of the lesser sixth; and the third is the same as the last inversion of the dominant seventh. The mark $\flat$ is generally applied to the chord of the false fifth, and *not* to the chord of the great sixth, to which it is similar. The mark 4╂ is applied to the chord of the tritone, and not to that of the last inversion of the subdominant seventh. And the mark $\flat$ is applied to the chord of the sensible sixth, and *not* to the chord of the lesser sixth. These distinctions, depending on the arrangement of major and minor intervals contained in the chords, are too minute, and the reasoning on which they are formed too abstruse for the comprehension of a child.

suspension ; because the fourth and fifth, which are played together, are not consonant intervals to each other ; and besides, it is considered as a suspension of the common chord, into which it must always be resolved by the base descending one tone. It is also generally prepared ; and yet, so contradictory is the practice to the principle of thorough base occasionally, that it is not *always* considered a discord ; possibly, because the intervals it contains are all consonant to the tonic, though not so to each other.

Pupil. Are there as many different ways of figuring this chord as the others ?

Teacher. Yes ; it may be figured $\frac{9}{5}$; or $\frac{6}{4}$; or only 4. The next derivative from the common chord is the chord of the ninth.

Pupil. That, I guess, is made by playing the ninth instead of the eighth, in the same way as in the last you play the fourth instead of the third ?

Teacher. Precisely. And this chord is also called a discord of suspension to the triad. But you shall *guess* yourself how it is resolved. Write for me a chord of the ninth to C.

Pupil.

That must sound very ill ; for there are C, D, and E, in it all at once ; for those notes are the *tonic*, and the *third*, and the *ninth*.

Teacher. And what would you do to make it sound better ?

Pupil. I would leave out D; for C and E agree together.

Teacher. Then that shows you at once how it is resolved.

Pupil. O, I see—down to its eighth.

Teacher. Or you might resolve it another way, by *ascending* to the tenth, which is E, after you take away D; thus:
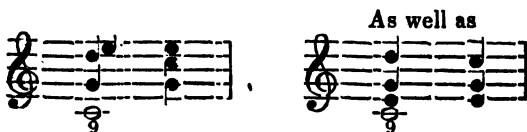
These two chords, the fourth and the ninth, blended together, make the third derivative from the common chord, namely; the chord of the ⁴₉. Write that for me to C, adding the fifth.

Pupil. (Writes.)
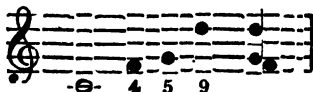
Teacher. Now you may perceive that two notes out of the three which compose this chord are found in the preceding chord; and for that reason it is said to be *sounds* of the ninth; and it is called a *double* suspension of the triad, because the fourth suspends, or delays the sound of the third, in the same way as the ninth delays the sound of the eighth.

Pupil. Then, of course, the third and the eighth are played after it, and so it is resolved into the triad.

Teacher. Exactly so. However, some people call this third of " doubtful origin," though surely it may as well be considered as a derivative of the common chord as either of the two others. . This discussion is, however, needless at present; there-fore tell me, how is the chord of $\frac{6}{4}$ resolved ?* *Ans.* By the base ascending a semitone, and being ac-companied by the triad of the note to which it is removed.—*Ques.* How is the chord of the $\frac{4}{3}$ re-solved ? *Ans.* By the base descending a tone.— *Ques.* How is the chord of $\frac{6}{2}$ resolved ? *Ans.* By the base descending a semitone.—*Ques.* What is the difference between a tone and a semitone ? *Ans.* When two notes are so near each other that their sound cannot be split into more than the two notes themselves, their distance is called a semi-tone ; but when their sound may be divided into three, it is called a tone.—*Ques.* How do sharps and flats affect a natural note ? *Ans.* A sharp raises, and a flat lowers it, a semitone each.— *Ques.* What sharp and flat intervals are similar to each other. *Ans.* Repeat the table in page 58.— *Ques.* Does this apply to the seventh ? *Ans.* No. —*Ques.* What is a sharp seventh ? *Ans.* When there is only a semitone between the eighth and seventh notes.—*Ques.* What is a flat seventh ?

* It *seems* the general practice to resolve a chord of the seventh, either direct or inverted, as follows : If the seventh is *sharp*, it is resolved by the concord of *its* fundamental base, either direct or inverted. If the seventh is *flat*, it is followed by the concord *of the subdominant* to its fundamental base, either direct or inverted. I have not sufficiently proved this to advance it as an axiom in the text of this little manual ; but the rules for resolving the inversions of the seventh, at present given, are extremely vague, and only partially apply to practice. For example, see a contradiction to Calcott's general rule for resolving the chord of 6, in Corfe's Scale of the Gamut, and his exercises generally. 5

Ans. When there is a whole tone between the eighth and seventh notes.—*Ques.* What chord is designated by a single figure of 5 with a stroke through it ? *Ans.* The chord of $\frac{6}{5}$ with the fifth flattened.—*Ques.* What chord is expressed by a single figure of 4 with a stroke through it ? *Ans.* The chord of $\frac{6}{4}$ with the fourth sharpened.—*Ques.* What chord is meant by a single figure of 6 with a stroke through it ? *Ans.* Generally the chord of the sixth, with that note sharpened ; but sometimes the chord of $\frac{6}{4}$.—*Ques.* What distinction of chords is there besides being direct or inverted ? *Ans.* Derived.—*Ques.* How many chords are derived from the common chord ? *Ans.* Three ; the chord of the fourth, the chord of the ninth, and the chord of the $\frac{9}{4}$.—*Ques.* How is the chord of the fourth made ? *Ans.* By playing the fourth in the common chord instead of the third.—*Ques.* How is it resolved ? *Ans.* By the fourth descending one tone.—*Ques.* How is the chord of the ninth made ? *Ans.* By taking the ninth instead of the eighth in a common chord.—*Ques.* How is it resolved ? *Ans.* Either by descending to the eighth, or ascending to the tenth.—*Ques.* How is the chord of the $\frac{9}{4}$ made ? *Ans.* By playing the fourth instead of the third, and the ninth instead of the eighth.—*Ques.* How is it resolved ? *Ans.* Into the common chord.—*Ques.* What are the fourth and the ninth chords called ? *Ans.* *Suspensions* of the common chord.—*Ques.* What is the chord of $\frac{9}{4}$ called ? *Ans.* Sounds of the other two, and a double suspension of the common chord.

LESSON X.

OF THE MAJOR AND MINOR MODE, &c.

Pupil. I have been thinking a great deal of what you told me, and I want to ask you some questions.

Teacher. Do so, with pleasure. No scholar can learn any thing well who does not think sufficiently to feel both a necessity and a desire for asking questions.

Pupil. Why, about those new chords you told me of—

Teacher. But you know I must have precision both in thought and language. What are the names of those precise chords you wish to speak of?

Pupil. I mean the chords of the fourth, and the ninth, and the $\frac{6}{4}$.

Teacher. Well, now I understand you—proceed.

Pupil. You told me, at the beginning, that every chord had as many positions and inversions (including its *direct* situation) as it has notes. Now have all these chords both?

Teacher. Of course, they have. Their *positions* are so obvious they need not to be explained to you. Their inversions, and those of the derivatives from the chord of the seventh, produce every other legitimate chord used in thorough base.

Pupil. O, then, please tell them quickly, and then I shall know all thorough base.

Teacher. That would be a *skip* indeed; but there are other things to be learnt in thorough base besides what notes go together in certain chords: so, I think, we had better postpone the inversion of these chords. Have you any more questions to ask me ?

Pupil. Oh ! I had almost forgot ! You told me, too, that the common chord was called the fundamental concord; and the seventh, the fundamental discord; because all concords were derived from the first, and all discords from the last.

Teacher. Well ?

Pupil. Now you said yesterday, that the chords of the fourth, and the ninth, and the $\frac{2}{4}$, all come from the common chord, though they are all discords.

Teacher. I am glad to find you are so accurate an observer. That is an objection to the arrangement of those chords, to which neither Pasquali nor Corfe (two great masters) seem to have attended, as they have not given us any assistance in removing it. Nevertheless, I think I can explain it to you : the chord of the fourth (which is sometimes figured $\frac{8}{5}$,) and the chord of the ninth (sometimes figured $\frac{9}{5}$,) have each two sounds out of three belonging to the triad; and the chord of the fourth and ninth sometimes figured $\frac{9}{5}$, takes a note from each of the three ; namely, the triad, and its two derivatives ; but, perhaps, it would be still more correct to say, that *all* chords in thorough base are derived from the harmonic triad, though that might be considered by some a bold assertion.

Pupil. But it is very true, now that I think of

it ; for the seventh itself is derived from the common chord, and that brings both concords and discords back to the $\frac{8}{5}$.

Teacher. I think you would soon make a good logician. But in the mean time give me your attention while I explain to you the two chords which I consider to be derived from the seventh, as that figure is introduced in both. The first is the chord of $\frac{9}{7}$: what would that be to C ?

Pupil. (Counting.) E, B, and D.

Teacher. Very right. This chord is also considered as a double suspension of the $\frac{8}{5}$, into which it is resolved. In this chord the fifth is generally left out, and the third sometimes; that is also the case in the chord of $\frac{9}{4}$. Now write for me to C the chords of $\frac{8}{5}$, 7, and $\frac{9}{7}$.

Pupil. (Writes.)

Teacher. Now you perceive that when the third and fifth are left out, it has no notes in common with the $\frac{8}{5}$, though it has *always* one note in common with the seventh, which I point out to prove

why I consider it as derived from the seventh,
though many derive it from the common chord.
The next derivative from the seventh is the chord
of $\frac{7}{4}$. In figures, this chord has two notes similar
to the last inversion of the seventh ; and in prac-
tice, it is always found the common chord of the
semitone below the base. Write that chord for
me to C.

Pupil.   (Writes.)
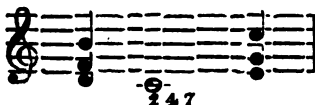
And does it go up to the triad in being resolved ?
    Teacher.   Yes. These make in all twelve
principal chords, namely, two fundamental, five
inverted, and five derived.—See the following
examples.

1

Common Chord.   Harmonic Triad.
Fundamental Concord.
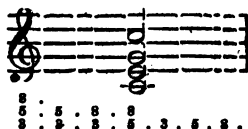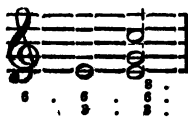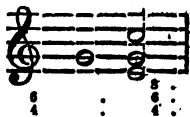
8 . 8 . 8 . 8
5 : 5 : 8 : 8
3 : 3 : 3 : 5 . 3 . 5 . 8 .

INVERTED.

2   **3**

Chord of the Sixth.   Chord of the
                                 Fourth and Sixth.

8 .   8 .
6 . 6 . 6 :   6 . 6 :
3 . 3 : 3 :   4 . 4 :

DERIVED.

4   **5**   **6**

Chord of the   Chord of the   Chord of the
Fourth.   Ninth.   Fourth and Ninth.

        8 .   9 .
5 : 8 . 5 :   9 . 9 . 5 :   9 .   9 :
4 . 4 : 4 : 4 :   9 . 5 : 3 : 3 : 4 . 4 . 3 :
4 . 4 : 4 : 4 :

7
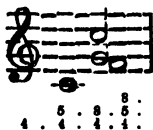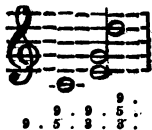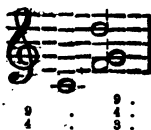
7

Chord of the Seventh.
Fundamental Discord.
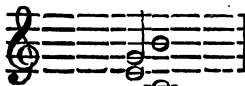
7 . 5 : 7 : 7 .
7 . 3 : 5 : 3 .

INVERTED.
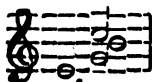
8	**9**	**10**
Chord of the Fifth and Sixth.	Chord of the Third and Fourth.	Chord of the Second and Fourth.
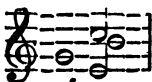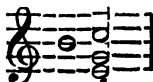
| 6 5 3 : : 6 3 : #6 | 4 3 : 6 3 : 6 . | 2 . 2 : 4 2 . 4 . |

DERIVED.

11	**12**
Chord of the Seventh and Ninth.	Chord of the Fourth and Seventh.

| 9 7 : 7 3 : | 7 4 : 4 3 : |
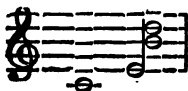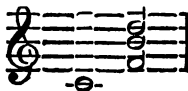
Teacher. I hope you now sufficiently understand the formation of these different chords; therefore, now give me your attention once more, whilst I talk to you a little about *major* and *minor* keys.

Pupil. Those are the flats and sharps, are they not ?

Teacher. Not the *flat keys*, though a flat, being a semitone *less* than a natural, is its minor. This you will better understand presently. In the mean time, remember major keys may be either sharp or flat.

Pupil. What do you mean, then, by *major* keys ?

Teacher. You must first understand that the terms *modes, scales,* and *keys,* are all nearly synonymous in thorough base, and are understood to mean a certain specified arrangement, or progression of sounds in an octave.

Pupil. How many kinds of modes are there ?

Teacher. Only two now in use; namely, the major and the minor ; and their principal distinction is the order in which the sounds, by which I mean tones and semitones, follow each other in an octave. The major mode is founded on the natural order of tones and semitones which the notes form of themselves in the octave of C, agreeing with the calculation of semitones, appropriated to its respective intervals, which I have already enumerated. If you turn to the table of intervals,* you will find there is an odd semitone brought in between the third and fourth, and another between the seventh and eighth of the tonic, or key note.

* See Lesson IX.

This gives a progression of tones and semitones in the major mode thus:

> Two whole tones,
> One semitone,
> Three whole tones,
> One semitone.

Now try the notes in their natural order in the octave of C natural, and you will find they come exactly in this progression.

Pupil.   C to D, one whole tone;
> D to E, one tone;
> E to F, a semitone;
> F to G, a tone;
> G to A, a tone;
> A to B, a tone; and
> B to C, a semitone.

But, would not they come in the right order in any other octave as well as in C natural?

Teacher.   Not without the assistance of sharps or flats, which you know are in themselves semitones, and are so used to preserve the proper sequence; for instance, try yourself the octave of G.

Pupil.   G to A, one tone;
> A to B, one tone;
> B to C, a semitone: is that
all right?

Teacher.   Yes; but go on and prove the remainder.

Pupil.   C to D, a tone;
> D to E, a tone;
> E to F—Oh! that is but half
a tone.

Teacher.   But if you play F sharp instead of F natural, you add the semitone you want.

Pupil. So it would : then F♯ to G♮ is another semitone, and that brings it all right.

Teacher. Therefore, G is the tonic, or key note, of one sharp in the major mode.

Pupil. Oh !—yes. I always knew the key of G major had one sharp, but I never knew why before.

Teacher. The *why* is, that the introduction of F ♯ in the octave of G restores the proper order of tones and semitones which the major mode requires, and which without it would be destroyed. So in the same way, the octave of D requires two sharps ; the octave of A, three ; and so on.

Pupil. And is it the same with flats ?

Teacher. Exactly. Try the octave of F natural : you will find it requires one flat ; B flat takes two, &c.

Pupil. (Tries those octaves, and many others.)

Teacher. Now you remember I told you the other day that every melody must conclude by the common chord of its tonic, or key note ; and I was surprised that you did not ask me what a key note meant. However, now you understand it.

Pupil. O yes ; for instance, G is the key note of one sharp.

Teacher. It is. Now playing the same melodies in different pitches is called transposition, and the pitch you choose is called its *key ;* so if you played the octave of C natural and the octave of G with one sharp, you would find the sounds similar, because the order of tones and semitones is similar ; but the pitch, or key, would be different.

Pupil. Yes ; because, as you just said, it would be a transposition.

Teacher. I believe our conversation for to-day must now end ; but with this one remark, that you will find the different tonics of the major keys requiring additional sharps or flats follow each other in the gamut by fifths.

Pupil. How do you mean?

Teacher. You have just proved yourself that G takes one sharp. How many notes is G above C, which you know has no sharp?

Pupil. G is the fifth above C ; I know that.

Teacher. Well, then, D, which takes two sharps, and is the fifth above C ; A is the fifth above D, and has three sharps ; and so on.

Pupil. And how do the flats go?

Teacher. The flat keys are found by counting five notes *downwards*, in the same way as sharps are found by counting five notes upwards.

Pupil. (Counting.) Then, I suppose, F has *one* flat, because it is *once* five notes down from C?

Teacher. Just so. Now if you count *up* from C, you will find that F is *four* notes *above* C : so it is just the same whether you count four notes above or five notes below any given note.

Pupil. (Tries them herself.) So then it is very easy to tell how many sharps or flats come into the key of any note, by counting how many times it goes four or five times from C.

Teacher. Well, now, tell me what is the first chord derived from the seventh ? *Ans.* The chord of the seventh and ninth.—*Ques.* How is it resolved ? *Ans.* Into the common chord of which it is considered a double suspension.—*Ques.* What notes are usually left out in this chord? *Ans.* The third and fifth.—*Ques.* Are they generally omitted in any other chord ? *Ans.* Yes;

in the chord of the fourth and ninth.—*Ques.*
What is the second chord derived from the sev-
enth? *Ans.* The chord of the fourth and seventh.
—*Ques.* How is it found? *Ans.* By taking the
common chord of the semitone below the base.—
Ques. What are the six principal concords, includ-
ing the derivatives from the triad? *Ans.* First, the
fundamental concord; then its two inversions;
viz. the chord of the sixth and of the $\frac{6}{4}$; and then
its three derivatives; viz. the chord of the fourth,
the chord of the ninth, and the chord of the $\frac{4}{2}$.—
Ques. What are the six principal discords? *Ans.*
The chord of the seventh; then its three inversions;
viz. the chord of the $\frac{6}{5}$, the chord of the $\frac{4}{3}$, and the
chord of the $\frac{4}{2}$. Then its two derivatives; viz.
the chord of the $\frac{9}{7}$, and the chord of the $\frac{7}{4}$.—*Ques.*
What is the order of tones and semitones in a
major key? *Ans.* Two tones, one semitone, three
tones, one semitone.—*Ques.* What is the only
octave which gives this order in natural notes?
Ans. The octave of C.—*Ques.* At what intervals
do the tonics of sharp keys succeed each other.—
Ans. At the distances of fifths counted upwards
from C.—*Ques.* At what intervals do the tonics
of flat keys recur? *Ans.* At the distances of fours
counted upwards from C.—*Ques.* What intervals
counted *downwards* is equal to a fourth counted
upwards? *Ans.* A fifth.

LESSON XI.

Teacher. Do you remember the situation of the semitones in a major key ?

Pupil. Yes; they are found between the third and fourth, and between the seventh and eighth of the tonic.

Teacher. Then, of course, that gives you, in ascending in a major key, the order of two tones, one semitone, three tones, and one semitone; but as the *situation* of the semitones never alter in a major key, the *order*, of course, is reversed in descending.

Pupil. Yes; for if I said them backwards, it would make one semitone, three tones, one semitone, and two tones.

Teacher. Just so. But in *minor* keys, the positive situation of the semitones in ascending is different from their situation in descending.

Pupil. Then in the minor key is the octave played in the same order of tones and semitones, going both up and down ?

Teacher. No. And in speaking of the tonic of a minor mode, you are understood to mean that key which gives the proper succession of tones and semitones in *descending;* in other words, which places the semitones between the proper intervals, *counted* upwards from the tonic, but *played* downwards.

Pupil. And is there any octave which gives the proper order in the minor key, without using sharps or flats?

Teacher. Not both in ascending and descending; but the octave of A ♮ gives the proper order in descending; and it is, therefore, called the " relative minor" to C natural; for the major and minor modes that are called relative to each other are those which contain the same number of sharps, flats; or naturals, in their signatures.

Pupil. I wonder how people first thought of all these modes.

Teacher. Rameau, a famous French writer on the theory of music, says, that they were originally arranged according to the natural vibration of chords; for instance, if you sound C on any stringed instrument, its third and fifth, or their octaves, viz. E and G, will vibrate.

Pupil. To vibrate means to make the kind of echo we hear; does it not?

Teacher. Yes; and certainly that appears a natural origin for those concords, and for the major mode which is deduced from it. It being ascertained that C made both E and G vibrate, the next step was to prove if either of those notes would cause either of the other two to sound in the same manner; but, as you may prove yourself on the piano forte, neither produce that effect.

Pupil. And why would not E, for instance, make C sound, if C made E sound?

Teacher. Because it is the perfect third, or perfect fifth, only of a note that vibrates.* Now

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* The experiment is, in truth, made on the twelfth or seventeenth of a note; but I only mention their octaves; namely, thirds and fifths, to which they are finally reduced, in order to simplify it as much as possible.

E ♮ is a perfect third to C, and G is a perfect fifth to C; but G is a flat third to E, and the octave of C is a sixth to E, as you may see in the table of intervals.* If, however, you play E ♭ instead of E ♮, you take it back a semitone, and then G becomes its perfect third; and, of course, both those notes, viz. C and E ♭, will cause G to vibrate. On these two notes, therefore, namely, C ♯ and E ♭, two scales were formed, one called *major*, which in Latin means greater; and the other called *minor*, which in Latin means lesser; because it is formed on the flat, or lesser interval.

Pupil. And is there no key made on G also; for you said it vibrated both with C ♮ and E ♭?

Teacher. Yes; but G would not make either C ♮ or E ♭ sound, because they are not either thirds or fifths from G: therefore, it is only an attendant, or accessary to C; and the major key formed on G, which is the fifth of the tonic, is called an attendant key, or scale, to C, which is the tonic itself. Of these attendant keys, or scales, there are always two to every major, and two to every minor key.

Pupil. I suppose the two attendant keys on C are those of E and G?

Teacher. No: E is left out; for you know E ♮ we have already excluded, as relating to C; and E ♭ has a minor scale of its own; therefore, the tonics chosen for the *attendant* scales are those formed on the fifth above and the fifth below the key note.

Pupil. And has that any thing to do with vibration?

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* See Lesson IX.

Teacher. Of course; for as the power of causing vibration, or as you would say, making an echo, is alike in all notes, it follows that if C makes the note *above* itself vibrate, *it* will be *made* to vibrate by the note to which it is *itself* the upper fifth : in other words by the note which is five notes below itself.

Pupil. Then, I suppose, G is one major attendant scale to C, and F is the other ?

Teacher. Exactly so; and the fifth note *above* a tonic is called its *dominant,* because it governs its upper attendant scale.

Pupil. I remember your telling me a chord of the seventh formed on the fifth above a key note was called a dominant seventh ; and a chord of the seventh formed on the fourth was called a subdominant seventh.

Teacher. And can you find out why it is called *sub*dominant ? You know *sub* implies lower.

Pupil. Because it is the note below the dominant.

Teacher. I think you could find a still better reason.

Pupil. Oh !—stop ! The fourth above is the same as the fifth below ; so I dare say it is called the *sub*dominant, because it governs the lower attendant scale.

Teacher. You are quite right. Now these attendant scales are sometimes called adjuncts, or auxiliaries.

Pupil. What is the use of them ?

Teacher. In composition, one of the chief beauties is a judicious modulation from one key to another; but it is only admissible to change into those which are in some way connected with

each other. Thus you might *modulate,* or change
the mode from C major into its attendant majors,
or into its relative minor and its attendant minors ;
but not into a scale which has no relation whatever
with the original mode ; at least, not without pass-
ing through some intermediate mode connected
with both. But we are not yet come to the rules
for modulation : we must first understand the for-
mation of minors. I have already told you the
minor scale is not formed the same in ascending
as it is in descending.

Pupil. Yes. You said the *places* of the semi-
tones changed in going downwards.

Teacher. I did so. Now I will first explain
the order of tones and semitones in *descending,*
because that gives the signature to the key. A is
the only octave which forms that order in natural
notes. I will, therefore, write it down, and you
shall tell me the situation in it of the two odd
semitones.

Pupil. From F to E is one semitone, and
from B to C is another.

Teacher. Therefore, you perceive they are
situated between the second and third, and between
the fifth and the sixth of the tonic. What order
of tones and semitones does that produce ?

Pupil. I am to count downwards, I know ; so
that gives two tones, one semitone, two tones, one
semitone, and a tone at the last.

Teacher. Now move the upper semitone, and

instead of playing it between the fifth and sixth, put it between the seventh and eighth.

Pupil. That would be between G and A.

Teacher. Yes. Now write me that scale *ascending*, but remember the fifth and sixth must now contain a whole tone.

Pupil. (Writes.)

For this I have been obliged to make both F and G sharp.

Teacher. And in doing so, you have done right. Can you repeat to me the order of tones and semitones in ascending a minor key?

Pupil. One tone, one semitone, four tones, one semitone.

Teacher. Well. Do you remember what majors and minors are relative to each other.

Pupil. Those which have the same signatures.

Teacher. That is to say, the signature of whose scales are alike in ascending in the major, and descending in the minor. Now every minor has two attendant keys, in the same way as every major has two attendant majors.

Pupil. Made on the same notes?

Teacher. Made on those notes which are found on similar intervals of course, for the same reasons hold good for them as for the others; for if the tonic of a major key causes its fifth above, or dominant, to vibrate, the tonic of a minor key must do the same; and in the same way it must be heard in the fifth below, which is its subdominant.

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Pupil. Then are there three minors belonging to C ?

Teacher. Yes, certainly. I have already told you that A is its relative minor, because it is the *natural* minor key, and, therefore, belongs to the natural major key. Now count on your fingers, and tell me what is the perfect fifth to A.

Pupil. E ♮.

Teacher. Then, of course, it must be the tonic of the upper atttendant minor scale to A.

Pupil. I thought it would be very odd if it was not brought in somehow, when it vibrated with C as much as G did.

Teacher. And by these rules, what note is the tonic to the second attendant scale to A minor ?

Pupil. (Counting.) D, teacher.

Teacher. Can you tell me what are the two chords of the seventh that do not require to be prepared ?

Pupil. The dominant seventh and the subdominant seventh.

Teacher. I think if you recollect what I have told you about vibration, you will discover the reason.

Pupil. Let me see—because the two notes on which these chords are made are precisely the two that either vibrate with C, or make C vibrate; is that it ?

Teacher. That is one reason. Another is taken from the notes which actually form those chords. What are those of the dominant seventh to C ?

Pupil. G, B, D, and F.

Teacher. In that you see the discord F is precisely the note which, as you say, accords with

C the tonic.   Now what notes form the chord of
the subdominant seventh to C?

Pupil.   F, A, C, E.

Teacher.   In that chord the discord E is the
perfect third to the tonic, and thus the ear is pre-
pared by the tonic both for its dominant and sub-
dominant seventh.   Now tell me, in considering
the two chords of G, B, D, F, and F, A, C, E, do
you discover any difference in the formation of
their intervals?

Pupil.   Yes.   F is a flat seventh to G, and E
is a sharp seventh to F.

Teacher.   And it is a general rule that flat
sevenths resolve by descending, and the sharp by
ascending.

Pupil.   And that agrees with what you said,
that the dominant seventh, which is a flat seventh,
is resolved by descending, and the subdominant,
which is a sharp seventh, by ascending.

Teacher.   You understand, I hope, what per-
fect *intervals* are : I must now explain to you what
perfect chords are.

Pupil.   I suppose they are chords consisting of
perfect intervals.

Teacher.   They are common chords, of which
the fifth must be perfect ; but the third may be
either major or minor.

Pupil.   By minor, I suppose you mean lesser?

Teacher.   Yes.   A major third contains its full
complement of semitones, and is in fact a natural
third ; and a minor third contains one semitone
less, and is in fact a flat third, according to our
former calculations.   Now a common chord with
a perfect fifth and a *major* third is called a perfect
major chord ; and a common chord with a perfect

fifth and a *minor* third is called a perfect minor chord; but if in either case the *fifth* was flattened, it would become an imperfect chord.

Pupil. Then, I suppose, E ♮, G, and C, is a perfect major chord to C ; and E ♭, G, and C, is a perfect minor chord to C.

Teacher. Exactly so. Now tell me what are the situations of the semitones in ascending minor keys ? *Ans.* Between the second and third, and the seventh and eighth.—*Ques.* What are their situations in descending ? *Ans.* Between the second and third, and the fifth and sixth.—*Ques.* What is the principal distinction between the major and minor modes ? *Ans.* The places of the semitones do not change in the major, though they do in the minor.—*Ques.* What are the relative majors and minors ? *Ans.* Those that have the signatures of their scales alike in ascending in the major key and descending in the minor.—*Ques.* If any note is struck, what notes will vibrate with it besides its octave ? *Ans.* Its third and fifth, and their octaves.—*Ques.* Have the relative majors and minors any other scales belonging to them ? *Ans.* Yes; each have two attendant scales.—*Ques.* What are they ? *Ans.* One made on their fifth above, and one made on their fifth below.—*Ques.* What is the note called which is a fifth above a tonic ? *Ans.* Its dominant, because it governs its upper attendant scale.—*Ques.* What is its fifth below called ? *Ans.* Its subdominant, because it governs its lower attendant scale.—*Ques.* Why is the chord of the seventh, though it is a discord, not prepared when it is formed on the dominant ? *Ans.* Because the discord is the subdominant of the key itself; and, there-

fore, is consonant to the key note.—*Ques.* Why is that chord not prepared on the subdominant? *Ans.* Because the seventh of the subdominant is the third of the key note ; and, therefore, is heard in its vibrations.—*Ques.* What is the difference in the resolutions of sharp and flat sevenths? *Ans.* Sharp sevenths resolve by ascending, and flat sevenths by descending.—*Ques.* Are dominant sevenths always flat? *Ans.* Yes.—*Ques.* Are subdominant always sharp? *Ans.* Yes.—*Ques.* What are perfect chords major? *Ans.* Common chords formed of perfect fifths, and *major*, or perfect thirds.—*Ques.* What are perfect minor chords? *Ans.* Common chords formed of perfect fifths and minor thirds.—*Ques.* What are minor thirds? *Ans.* Thirds containing one semitone less than natural thirds.

LESSON XII.

OF KEYS AND INTERVALS.

Teacher. You now understand that every note has six scales belonging to it ; namely, the major scale, to which it is itself the tonic ; the relative minor, with the same signature ; and—

Pupil. And its two attendant majors, and two attendant minors.

Teacher. Very well. Now tell me the two attendant majors to C.

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Pupil. One is the scale of its dominant, which is G; and the other is the scale of its subdominant F.

Teacher. And can you recollect, without counting, how many sharps or flats F and G have?

Pupil. Yes. G is just five notes *above* C; and, therefore, must have one sharp; and F is just five notes *below* C; and, therefore must have one flat.

Teacher. Well. You also know that E ♮ is the perfect fifth above A; and, therefore, the tonic to its upper attendant minor.—Now make a scale from that note descending according to the minor order.

Pupil. (Writes.)

tone.   tone.   sem.   tone.   tone.   sem.   tone.

Why, there is only one sharp in this upper attendant minor, and that is F ♯; and there is only one sharp in the upper attendant major, and that is F too.

Teacher. Very true; and you will find the same coincidence in the two other attendant keys. You found out yourself what was the second attendant major key to C: do you remember it?

Pupil. Yes; F ♮, with one flat.

Teacher. Now what is the second attendant minor?

Pupil. It is the key of the subdominant to A; that is, D.

Teacher. Then form that scale; and prove what I have said.

Pupil. (Writes.)

tone.   tone.   sem.   tone.   tone.   sem.   tone.

Just so; this has B ♭, and so has the key of F ♮ major.—Now have the *attendant* scales always the same sharps and flats as each other, in the same way as the *relative* majors and minors are alike?

Teacher. Of course: cannot you guess the reason?

Pupil. No; what is the reason of it?

Teacher. You know the *relative* majors and minors (which give rise to all the others) have the same signatures; and as the attendant scales are counted the same distance from both, of course their *proportions* or relations to each other must continue the same. You know the other day when your brother was learning mathematics, to exemplify one of Euclid's Axioms* he took the large scales, and first balanced them, and then—

Pupil. Oh! Yes; I remember; and then he continued adding the marbles he had weighed before; one at a time into each scale; and so it remained balanced on to the end, because the marbles he put into each scale were all the same weight.
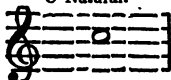
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* " Equal quantities, added to equal quantities, give equal results."

Teacher. Well, then, in the same way the relative majors and minors are first made to agree in their signatures; and the attendant scales being added to each, at the distance of five notes each, the scales remain " balanced on to the end." You will also find that in *sharp* keys the *upper* attendant scales, both major and minor, always *add* one sharp, and the *lower* attendant scales *take away* one sharp from the signature of the principal scales; and the same rule holds good in flat keys : but the natural key takes both a sharp and a flat for its attendant scales.—Now can you tell me the reason of these alterations in their signatures ?

Pupil. Why, you know the keys themselves go by fives.—Now the attendant scales are taken by fives also ; so that is just the same thing ; for it is like getting on one step further, or going one step back, every time.

Teacher. You are quite right ; and as you seem perfectly to understand the similarity between the attendant scales, you may write the principal sharp and flat keys, in addition to the following example in C and A natural. You will always find the relative minors four semitones *below* the tonic major, including the tonic itself ; or, what is the same thing, on its perfect sixth *above.*

EXAMPLE.

Major
C Natural.

[musical notation]

Upper Attendant
G
One Sharp.

[musical notation]
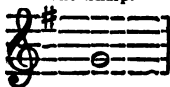
Lower Attendant
F
One Flat.

[musical notation]

Minor
A Natural.

[musical notation]
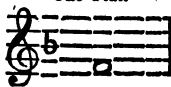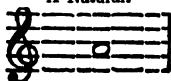
Upper Attendant
E
One Sharp.

[musical notation]

Lower Attendant
D
One Flat.

[musical notation]
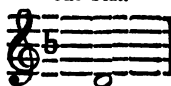
Teacher. Now can you tell me distinctly what are the tonics, or key notes, to all the scales belonging to C natural?

Pupil. Yes.—First, its relative minor A; then, its two attendant majors; first, its dominant G; then, its subdominant F; then, its two attendant minors, first made on the dominant to A, which is E♮; and last, the subdominant of A, which is D.

Teacher. You already know that G is five notes above C, and that F is four.—A also is the sixth above C; for you remember the "relative minors are found on the sixth above the tonic."—Now what is E♮ to C?

Pupil. Its third.

Teacher.   And what is D to C?

Pupil.   Its second.

Teacher.   Therefore, you can always recollect that the *first* attendant minor is formed on the major third above the tonic, in the same way as the relative minor is formed on the minor third below ; and the *second* attendant minor is formed on the second above the tonic, which second is called the supertonic.   Do you remember what I told you about fundamental bases being formed of the concords of the key they were in ?

Pupil.   Yes ; and those concords are the third, fourth, fifth, sixth, and eighth.

Teacher.   Now you see the sixth gives the relative minor ; the fifth, the first attendant major ; the fourth, the second attendant major ; the third, the first attendant minor ; the second, the second attendant minor ; and the seventh is called the leading note of the scale, as it is used in bringing in or introducing these different keys ; and it is itself brought in by the common chord of the fifth, or dominant : so that every note has its peculiar relationship to the tonic, and a particular office to perform in the formation of its keys.

Pupil.   And what has that to say to the rule of the fundamental base being formed of those concords ?

Teacher.   So far as this it relates to it, that as " the fundamental base ought never to sound any other notes than those of the series, or tone, in which the composer finds himself, or at least those of the series, or tone, to which he chooses to make a transition ;" so when the fundamental base is found upon any one of those intervals, it can only be accompanied by a chord of the original tone,

or key; or by one of that precise key to which it is itself a tonic.

Pupil. And how is one to know which accompaniment to choose?

Teacher. By the figures, of course; for this option rests with the *composer*, not the *performer.*—This theme would, however, lead us too much into the rules for modulation. Have you any more questions to ask about major and minor modes?

Pupil. In all you have told me about the major and minor modes that belong to each other, you have not said any thing about the E ♭, which you said first gave rise to the distinctions of major and minor:—is that not brought in any way in playing the octave of C?

Teacher. Yes; for if you play the octave of C downwards in the minor mode, you will find it brings in your favorite E ♭, and two others.—Prove that in notes.

Pupil. (Writes.)

tone.   tone.   sem. tone.   tone.   sem.   tone.

I am sorry I asked you that foolish question, for I might have remembered that in your table of relative keys, C ♮ is the tonic to three flats in the minor mode.

Teacher. You see playing the octave of C, either upwards or downwards, with natural notes only, is playing it in the major key: but playing it downwards with three flats is playing it downwards

in 'the minor key.—Now what sharps or flats
would' be necessary to bring it into the minor key
ascending?

Pupil. (Writes.)

tone.　sem.　tone.　tone.　tone.　tone.　sem.

It would only bring in E ♭.

Teacher. Thus, you see, an octave may be
played in three ways, or rather with three different
signatures; namely, in its major mode, both up
and down the same; and with its minor ascending
in one way and descending another. Now I will
tell you an easy method of changing an octave
from major to minor. You have nothing to do in
ascending but to flatten the third, and in descend-
ing to accompany that flat third with such other
signatures as it would itself demand in a major
mode.

Pupil. I understand. E ♭ is the flat third to
C; and that is the *only* flat which is wanted in
playing the octave of C upwards in the minor
mode: and E ♭ is the tonic to three flats in a
major mode; and those three flats are the precise
notes wanted in playing C minor downwards.

Teacher. Then, of course, it is equally easy to
convert a *minor* mode into a *major*, as there is
nothing to do but to sharpen the third; for you
remember the semitone lies between the seventh
and eighth of a minor mode in *ascending*, the
same as it does in the major mode; and it is in

the interval of the third only, that the difference is found between those two scales.—From thence it follows that the interval of the *third* alone determines the key. If it is major, the mode is major: if minor, the mode is minor.

Pupil. But will that rule hold good in *sharp* keys?

Teacher. Certainly; for flattening a sharp is in truth making it natural. Now write, for instance, the octave of G, first upwards, major; then upwards, minor; then downwards, minor; and upwards major.

Pupil. (Writes.)

Major ascending.   Minor ascending.

Minor descending.   Major ascending.
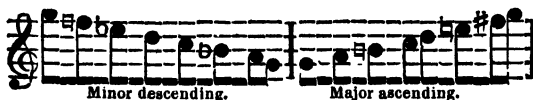
Teacher. Now if you refer to your table, you will find that G is the tonic to one sharp in the major and two flats in the minor modes; as also that every note is a tonic to two keys, one major, and one minor.

Pupil. Yes; and I shall remember too, that the two keys which have the same key note are *not* the relative majors and minors to each other. I shall not forget that, because I wonder so they were *not* made relative to each other.

Teacher. Certainly such a relationship would have been at least admissible; but you do not

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seem so thoroughly to understand why the prefer-
ence has been given to those which have the same
signatures. In the first place, as that very simi-
larity proves, in descending in the minor mode,
the sounds, or notes, are absolutely the same as
those used in the major mode of the corresponding
signature.

Pupil. Well; that I understand. And that
is *not* the case, I perceive, in the minor belonging
to the same tonic.

Teacher. Another reason why they are so
chosen is, that the perfect chords of both tonics
have two notes common to each; for instance, in
the natural, C, G, E, major, and A, C, E, minor,
have each C and E.

Pupil. I see; and it is not the same with E ♭;
for its common chord is E ♭, G, B: so there is
but one note the same.

Teacher. Very true. Nevertheless, it is a
very common modulation to pass from any key
into that which has a similar tonic.

Pupil. I wish I knew how to make what you
call those modulations :—will you teach me?

Teacher. Perhaps I may, hereafter, if I find
what I have already told you has the effect of
making you understand the first principles of
thorough base. But, for the present, our conver-
sation must end here with our usual recapitulations.

Pupil. One thing more, I want to know.
You say relative majors and minors have the same
signatures. Now if there is a piece of music
signed three sharps, how am I to know whether it
is in the key of A major or F minor.

Teacher. You remember that major keys are
formed the same both up and down; therefore, as

those keys require only the sharps designated by their signature to complete their scales both up and down, no other sharps need be introduced in the melody. But that is *not* the case in the minor; therefore, an additional sharp, or natural, must be introduced in its ascending scale; and that sharp must be found as an accidental sharp on the seventh of its tonic. That seventh, to F ♯ for instance, is E ♯. Therefore if the first E you meet with in a melody signed three sharps, is natural according to its signature, it proves that the melody is in the major key, which does not require its being altered; but if the first E you meet is sharpened, the melody is in the minor key. Thus you perceive the distinction lies in the seventh to the tonic of the minor key.

Pupil. Then, I suppose, I ought to learn from the book what notes are the tonics to all the major and minor keys?

Teacher. You need not be at that trouble if you recollect the following short rules:—In major keys with sharp signatures, the tonic is always found on the semitone *above* the last sharp. In minor keys with sharp signatures, the tonic is always found on the *third* semitone *below* the last sharp. Therefore, the *tonics* of a key are in sharp signatures determined by the *last* sharp in the signature; and whether the melody is major or minor, is ascertained by the seventh of the *tonic minor* being found to agree with the signature or not. Now prove this in any other sharp key you please.

Pupil. I will take two sharps. The last sharp in that signature is C ♯. B ♮ is the third semitone below C ♯, and, therefore, must be the tonic

to the minor key of two sharps. A is the seventh
to B. If the first A I meet in the melody is
natural, according to the signature, the melody is
in the major key; but if the first A I meet is
sharpened, it proves that it is in the minor key.—
That is a very easy rule: does it answer for flat
keys as well as sharp?

Teacher.   The rule of the seventh being sharp-
ened in minor keys holds good always; but the
method of finding the tonic varies.   In signatures
of more than one flat, the last flat but one deter-
mines the key note: for in major modes, the last
flat itself is the tonic. In minors, the fourth semi-
tone below the last flat but one is the tonic. Now
prove that yourself in the signature of two flats.

Pupil.   The signature of two flats is B and E:
B ♭ then must be the tonic major, and G ♮ the
tonic minor; for it is four semitones below B ♭.
Then F is the seventh to G. If the first F is
natural, the melody is in the major mode; but if
it is sharpened, the melody is in the minor mode.
But what am I to do, if there is but one flat in the
signature?

Teacher.   You must simply remember that the
tonic minor to one flat is D, and the tonic minor
to the natural key is A, which will be as little
trouble as recollecting that the tonic minor of one
flat is found five semitones above the signature, or
counting A ♮ downwards from C. You must also
observe, that in the natural signature, the sharp
seventh of the minor key, which is called the
leading note, is designated by an accidental sharp.
It is also so written in the signatures of one or
two flats; and in all sharp signatures.—In signa-

tures of more than two flats, the leading note is marked by an accidental natural.

Pupil. I observed, in speaking of the key of F minor, you mentioned E ♯, and not F ♮.

Teacher. Can you remember equally well, how many scales belong to every note? *Ans.* Six.—*Ques.* What are they? *Ans.* Two principal, and four attendant.—*Ques.* Are the signatures of the attendant major keys the same as the signatures of the attendant minor keys? *Ans.* Yes.—*Ques.* What alterations do the attendant scales make in the signature of sharp keys? *Ans.* The upper one adds a sharp, and the lower one takes away a sharp from the original signature.—*Ques.* What alterations do they make in the signatures of flat keys? *Ans.* In the reverse order, the dominant takes away a flat, and the subdominant adds one. —*Ques.* What alterations do they make in the natural keys? *Ans.* The dominant adds a sharp, and the subdominant a flat.—*Ques.* Where may the tonics of the relative minors be found? *Ans.* Either on the sixth note above the tonic major, or the fourth semitone below it.—*Ques.* Where is the upper attendant minor found? *Ans.* On the third major above the tonic.—*Ques.* Where is the second attendant minor found? *Ans.* On the second, or supertonic.—*Ques.* In how many ways may one octave be played? *Ans.* in three; namely, in its major mode, both up and down the same; and in its minor mode, ascending in one way, and descending another.—*Ques.* How can you readily change an octave from the major to the minor mode? *Ans.* In ascending, the only difference is that the major third is flattened, and in descending, that flattened or minor third takes

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its own major signatures.—*Ques.* How can you readily change an octave from the minor to the major mode? *Ans.* By sharpening the third in ascending, and playing the other notes the same as in ascending in the minor.—*Ques.* To how many keys may one note be a tonic? *Ans.* Two; one major, and one minor.—*Ques.* Are those majors and minors relative to each other which have the same notes for tonics? *Ans.* No; those only are relative to each other which contain the same sounds, implied by similar signatures.—*Ques.* How can it be ascertained whether a melody is composed in the major or minor mode when the signatures to each may be the same? *Ans.* By the seventh to the tonic minor. If that note agrees with the signature in the melody, the mode is major. If that seventh is sharpened accidentally, the mode is minor.—*Ques.* How are the tonics minor found in sharp keys? *Ans.* They are always on the note which is the third semitone below the last sharp in the signature.—*Ques.* How are they found in flat keys? *Ans.* On the fourth semitone below the last flat but one in the signature.—*Ques.* What is the tonic minor to one flat? *Ans.* D.—*Ques.* What is the tonic minor to the natural key? *Ans.* A.—*Ques.* How are the sharp sevenths, or leading notes, designated in signatures of more than two flats? *Ans.* By accidental naturals.—*Ques.* How are they designated in all other signatures? *Ans.* By accidental sharps.

RECAPITULATION.

In order to impress on the mind of the student the substance of the preceding Lessons, I subjoin a recapitulation of those questions and answers which are most necessary to be remembered.

OF CHORDS IN GENERAL.

What is harmony ?—The union of many notes.

What is melody ?—A succession of harmonies.

What is a chord ?—Two or more notes played together.

How are notes reckoned in thorough base ?—By their distances from each other in an octave, both the first and last note being counted.

What is the root note, or fundamental base, of a chord ?—The particular note from which all the rest are reckoned.

Is it always played in the base ?—No: sometimes it is played in the base ; sometimes in the treble ; and sometimes in both ; but with the exception of a very few extreme discords, is always to be found somewhere in a chord.

OF THE COMMON CHORD AND ITS INVERSIONS.

What is a common chord ?—The third, fifth, and eighth of a root note, played with it.

What may it be called ?—The chord of 8, or the harmonic triad ; or the fundamental concord.   5
                                                          3

How is it expressed ?—By the figures 3, 5, or 8, singly or together, or any base note without any figure, is to be accompanied by its common chord.

How many positions has it ?—All chords have as many positions as they have notes, except those which have not the octave of the base ever played in the treble. The common chord may be taken in its three positions.

What is the inversion of a chord ?—The base changing from the root note of the chord to some other note contained in the chord.

How many different situations may the base of a chord take ?—As many as there are notes in a chord. When the base note is the lowest ; or, in other words, the root note, the chord is called direct ; when the base is in any other situation, the chord is inverted.

What is the difference between the " positions" and inversions of a chord ?—In the *positions*, the treble changes, and the base remains the same ; in the *inversions*, the base changes, and the treble does not.

What is the first inversion of the common chord ?—When the base takes the third of the root note.

How is it expressed ?—By a figure of 6 over the base note ; or thus, 6 or 8.
        3   6
                 3

What is it called ?— The chord of the sixth.

What note is usually omitted in playing the chord of the sixth?—The octave of the actual base note.

How do you find the chord belonging to a base note that has a figure of 6 over it ?—By taking the common chord of the third below the actual base.

What is the second inversion of the common chord ?—When the base takes the fifth of the root note.   8

How is it expressed ?—By a 4 and a 6; or by 6.

What is it called ?—The chord of the 4th and 6th.   4

Are any notes omitted in playing this chord ?—Not necessarily.

How do you find the chord belonging to a base note that has any of the signs of this chord ?—By taking the common chord of the fifth below the actual base.

Is there any rule about playing the octave of the actual base ?—It should seldom be played the upper note of any chord, except in the conclusion of a melody.

In what chord must every melody conclude ?—In the direct common chord of its key note.

What two chords are rarely allowed to follow each other ?—Two perfect common chords.

What is the disallowance respecting consecutive octaves and fifths?—The octaves of two base notes are not to be played as the upper notes of two successive chords, and the same with fifths.

What is the disallowance respecting skips ?—The highest note of one chord must never be more than four notes higher or lower than the highest note of the last.

What are perfect concords ?—Chords formed of notes that are perfectly accordant with each other.

At what intervals are the most accordant notes found ?—Thirds, fourths, fifths, sixths, and eighths.

What notes form the fundamental base of a melody ?—Those which are perfect concords to its key note.

What is the fundamental base of a melody ?—That succession of fundamental notes which gives rise to its harmony.

Is the fundamental base of a melody the same as its actual base ?—No ; not always.

Is the fundamental base of a chord the same as its actual base ?—Never ; except in direct chords.

What sign denotes a sharp in writing thorough base ?—A line drawn through a figure denotes that the note expressed by that figure must be sharpened.

Is there any exception to this rule?—Yes ; when a figure of 5 is put singly with a stroke through it, it implies the chord of 6, with its fifth *flattened.*   5
                                                                                      3

What is the meaning of a sharp, flat, or natural sign being put to a base note that has no figure to it ?—The sign applies to the *third* of the base note played in its common chord.

Must the signs of sharp, flat, or natural, be repeated to every note in the same measure ?—Only in the base when the notes change, but not in the treble when the accompanying note remains unaltered.

What distinctions of chords are there besides the direct and inverted ?—Derived chords.

How many chords are derived from the common chord ?—Three ; viz. the chord of the fourth, the chord of the ninth, and the chord of the 9.

   4

How is the chord of the fourth made ?—By playing the fourth in the common chord instead of the third.

How is the chord of the ninth made ?—By playing the ninth in the common chord instead of the eighth.

How is the chord of the 9 made ?—By taking the fourth instead of

   4

the third, and the ninth instead of the eighth, of the root note.

OF DISCORDS.

What is the fundamental discord ?—The chord of the seventh.

How is it made ?—By adding the seventh of the root note to its common chord.

How is it expressed ?—By a figure of 7 alone.

How is it found ?—By taking the common chord of the third above the base.

How many positions has it ?—Four.

How many inversions ?—Three.

What is a dominant seventh ?—A chord of the seventh formed on the fifth above the key note.

What is a subdominant seventh ?—A chord of the seventh formed on the fifth below the key note.

How are discords prepared ?—By the note which forms the discord being heard as a concord in the preceding chord.

Must the dominant and subdominant seventh be prepared ?—No.

How are discords resolved ?—By the note which forms the discord being left out of the succeeding chord, which must, however, include some one of the concords of the chord which contained the discord.

Must all discords be resolved ?—Yes.

How is the dominant seventh resolved ?—By the part in which it is heard descending.

How is the subdominant seventh resolved ?—By the part in which it is heard ascending.

What chord must follow the chords of the seventh in regular progression ?—The triad of the key note, or one of its inversions.

What is a sharp seventh ?—That which is only a semitone from the octave.

What is a flat seventh ?—That which is a whole tone from the octave.

What is the difference between a tone and a semitone ?—When two notes are so near each other that their sound cannot be split into more than the two notes themselves, their distance is called that of a semitone ; but when their sound may be divided into three, it is called a tone.

How are sharp sevenths resolved ?—By ascending.

How are flat sevenths resolved ?—By descending.

Is there any note omitted in playing the chord of the seventh ?—The octave of the base is generally omitted in playing that chord, and all its inversions.

May the inversions of the seventh succeed that chord before it is resolved ?—Yes.

How is the first inversion of the seventh made ?—By playing the third in the base.

What is it called ?—Chord of the fifth and sixth.

How is it expressed ?—6, 6, $\flat$.
5 5
3

How is it found ?—By taking the common chord of the third below the base with its seventh.

How is it resolved ?—By moving the base down a tone, and playing its common chord in the treble.

How is the second inversion of the seventh made ?—By moving the base up to the fifth.

What is it called ?—Chord of third, fourth, and sixth.

How is it expressed ?—4, 6, or $\flat$.
3 4
3

How is it found ?—By taking the common chord of the fifth below the base with its seventh.

How is it resolved ?—By the base descending a tone.

How is the third inversion of the seventh made ?—By playing the discord in the base.

What is it called ?—Chord of two, four, six.

How is it expressed ?—2, 4, 6, 4 +.
2 4
2

How is it found ?—By taking the common chord of the note above the base.

How is it resolved ?—By the base descending a semitone.

What chords are derived from the seventh ?—The chord of 9, and the chord of 7.   7
4

How is the chord of 9 resolved ?—Into the common chord by sub-
7
stituting the octave and leaving out both discords.

How is the chord of the 7 resolved ?—Into the common chord in the same way.   4

How is it found ?—By taking the common chord of the semitone below the base.

How is the chord of the fourth resolved ?—Into the common chord, by the base descending one tone.

How is the chord of the ninth resolved ?—Into the common chord, either by ascending to the tenth, or descending to the eighth.

How is the chord of 9 resolved ?—Into the common chord by descending to the eighth. 4

How do you know the fundamental base of any discord ?—If the two discords are close together in a chord, the upper note is the fundamental base ; if they are separated, the lower note is the fundamental base.

OF KEYS AND INTERVALS.

How do sharps and flats affect a natural note ?—A sharp raises, and a flat lowers it a semitone.

What sharp and flat intervals are similar to each other ?—A sharp second is a flat third, a sharp fourth is a flat fifth, a sharp fifth is a flat sixth, and a sharp sixth is a flat seventh.

What is the difference between a major and a minor third?—A major third contains four semitones; and a flat, or minor third, three.

What are the inversions of intervals?—An upper second is a lower seventh, an upper third is a lower sixth, an upper fourth is a lower fifth, an upper fifth is a lower fourth, an upper sixth is a lower third, an upper seventh is a lower second.

At what intervals do the tonics of sharp keys succeed each other?—At the distances of fifths counted upwards from C.

At what intervals do the tonics of flat keys succeed each other?—At the distances of fours counted upwards from C.

How are the tonics of major keys known by their signatures?—In sharp signatures the tonic major is always one semitone above the last sharp; in flat signatures, the last flat but one is the tonic major; in signatures of but one flat, F is the tonic major; in the natural signature, C is the tonic major.

How are the tonics of minor keys known by their signatures?—In sharp signatures, the tonic minor is always on the third semitone below the last sharp in the signature, including the note of the signature. In flat signatures the tonic minor is on the fourth semitone below the last flat but one of the signature, including the note of the signature; in signatures of but one flat, D is the tonic minor; in the natural signature, A is the tonic minor.

How can it be ascertained whether a melody is composed in the major or minor mode of similar signatures?—By the seventh to the tonic minor, which is the leading note; if that note agrees with the signature, the mode is major; if that note has an accidental sharp, the mode is minor.

How are the leading notes designated in signatures of more than two flats?—By accidental naturals.

How are they designated in all other signatures?—By accidental sharps.

What majors and minors are relative to each other?—Those only which contain the same sounds, implied by the same signatures.

Are those majors and minors relative to each other which have the same notes for tonics?—No.

To how many keys may one note be a tonic?—Two; one major, and one minor.

In how many ways, each requiring different signatures, may one octave be played?—Three; in its major mode both up and down the same; in its minor mode, ascending in one key, and descending in another.

How may an octave be changed from the major to the minor mode?—In ascending, the only difference to be made is, that the third must be flattened; and in descending, that flattened or minor third is accompanied by such other sharps or flats as would itself require a major mode.

How may an octave be changed from the minor to the major mode?—In ascending, the only difference to be made is that the third must be sharpened; the other notes remain the same as in ascending in the minor.—Major mode played with the same notes up and down.

In what intervals are the semitones found in a major scale?—Between the third and fourth, and seventh and eighth of the tonic.

Are the places of the semitones ever changed in a major scale?—No.

What is the order of tones and semitones in a major scale?—Two tones, one semitone, three tones, one semitone.

Is there any octave which gives this order in natural notes?—Only the octave of C.

In what intervals are the semitones found in a minor scale ?—Between the second and third, and seventh and eighth, of the tonic in ascending; and between the second and third, and fifth and sixth, in descending.

What is the order of tones and semitones in a minor scale ?—One tone, one semitone, four tones, one semitone, in ascending; two tones, one semitone, two tones, one semitone, and one tone, in descending.

Is there any octave which gives this order in natural notes ?—The octave of A gives the right order in *descending*, but none gives the right order in ascending.

Do minor scales take their signatures from the notes used in ascending or descending ?—In descending.

Have relative majors and minors any attendant scales ?—Yes; each have two; one formed on the fifth above, and one formed on the fifth below their respective tonics.

Are the signatures of the attendant major keys always the same as the attendant minor keys ?—Yes.

What alterations do the attendant keys make in the signatures of sharp keys, both major and minor ?—The upper, or dominant, adds a sharp; and the lower, or subdominant, takes one away from the original signature.

What alterations do they make in the signatures of flat keys, both major and minor ?—The dominant takes away a flat, and the subdominant adds one.

How many keys belong to each note ?—Six; viz. three major, one principal, and two attendant; and three minor, one relative, and two attendant.

At what intervals are these keys found ?—The tonic itself gives the principal major, the sixth the relative minor, the fifth the first attendant major, the fourth the second attendant major, the third the first attendant minor, the second the second attendant minor.

What alterations do the attendant scales make in a natural signature ?—The dominant adds a sharp, and the subdominant adds a flat.

COMPARATIVE CHORDS.

Chord of the sixth 6. . . . Concord ⎱
⎰ of the third below the base.
Chord of the fifth and sixth 6. Discord ⎰
5

Chord of the sixth fourth 6. . Concord ⎱
4 ⎰ of the fifth below the base.
Chord of the third fourth 6. . Discord ⎰
4
3

Chord of the second and fourth 6...Concord of the tone above the base.
4
2

Chord of the 4th and 7th 7...Concord of the semitone below the base.
4
2